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THE CINCINNATI MEDICAL NEWS.

EDITED BY

J. A. THACKER, M. A., M. D.

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THE
CINCINNATI MEDICAL NEWS.

VOL. XII. No. 135. Old Series. MARCH, 1879. VOL. VIII. No. 3. New Series.

ORIGINAL CONTRIBUTIONS.

Brighton and Sussex [England] Natural History Society.

Reported for Cincinnati MEDICAL NEWS.

IMMERSION ILLUMINATORS FOR THE MICROSCOPE.

ON Thursday night, February 13, a meeting of the members of the Brighton and Sussex Natural History Society was held in the Curator's Room, at the Free Public Library. The President of the Society, Mr. Alderman J. E. Mayall, occupied the chair, and after the disposal of some routine business,

Mr. John Mayall, Jun., F. R. M. S. (of London), delivered an address upon "Immersion Illuminators for the Microscope: their bearing on the aperture question." He remarked that, if the highest authorities on optics were asked to state where lies the *power of discovery* in the microscope, the reply would be that the power of discovery absolutely depended upon the angular aperture of the lens to be used. In order to render this intelligible as a matter of physical optics, some training in mathematics was needed. He hoped, however, with the assistance of diagrams on the blackboard, to present some clear ideas of the meaning of aperture, and of the methods adopted for arriving at the largest available increase of aperture in practical constructions of lenses. In proof of the actual fact that the increase of aperture aids the instrumental power of discovery, he placed before the meeting a large series of photographs of all the most difficult test-objects known:—Nobert's famous lines, in which the highest band was clearly shown, although ruled so closely that 112,000 would occupy the space of an inch; diatoms such as the *amphipleura pellucida*, in which lines were shown very strongly marked at the rate of 100,000 to the inch; blood corpuscles in great variety, photographed actually on a micrometer plate, so that their comparative size could at once be determined; anatomical sections, etc., the whole representing the finest results that had been obtained hitherto by the application of photography to microscopy. These photographs were all produced under the immediate direction of Dr. Woodward, of the Army Medical Museum, Washington, United States. Photographs of many of these objects had been produced by the same skillful microscopist, some years ago, with lenses of lower aperture; but, in the opinion of all whose opinion was of moment—and notably of Dr. Woodward himself—the newer photographs, produced with lenses of greater and still greater apertures, so far superseded what was done with the lenses of lower aperture that it might fairly be said we had entered a new era in microscopy, in consequence of the great extension lately given to apertures. Dr. Woodward did not scruple to designate any lens of less aperture than eighty-two degrees, measured in the body of the front lens, as "weak-kneed," and such as no one who was conversant with the use of higher apertures would now use in seeking a difficult result—a result likely to tax the power of the lens and the manipulative skill of the microscopist.

Mr. Mayall continued: "The great extension given to apertures recently is due to the introduction of the *immersion system*. In the modern microscope, the merit of applying this system is due to Amici, whose practical skill as an amateur optician has been so highly extolled by Sir John Herschel. But very great improvements have been made since his time. By the exertions of Tolles, the optician, of Boston, an aperture of 127 degrees has been secured —measured in the body of the front lens, when adjusted in accurate focus through oil immersion. Professor Abbe, of Jena, has also devised lenses having about 110 degrees aperture, measured in glass, and these lenses are rapidly gaining favor—they show that unmistakable advance has been made by the adoption of the formula for oil immersion. But I must now endeavor to show you how these modern immersion lenses are devised, so as to secure apertures largely in excess of the maximum that is possible with dry lenses. It must be understood that I assume the object or radiant to be in balsam or other refractive fluid, and that we are seeking to obtain the largest possible cone of image pencils from it, so as to be available to an eye placed at the eye-piece of the microscope."

Mr. Mayall then explained that apertures were computed by mathematicians by tracing the rays from the back focus through the system of lenses to the front focus; the front focus being the point at which the whole cone of rays converged as free as may be from aberration. If the front focus was in air, it was shown that no pencil greater than eighty-two degrees, "double the angle of total reflexion," could emerge from the plane front of the lens; and, obviously, if no greater cone could *emerge* to a focus one way, neither could any greater cone *enter* the body of the lens from the radiant. This angle of eighty-two degrees must be regarded as the limit for dry lenses. The action of the law of the critical angle, or the angle of total reflexion was illustrated by a diagram of a right-angled prism, such as might be cut from a hemi-spherical lens. If a ray of light were incident perpendicularly to one of the faces of the right angle, that is to say at forty-five degrees from the axis, this ray passes without refraction into the body of the glass, and is totally reflected out at the other face of the right angle, at right angles to its original direction. Total reflexion, or internal reflexion would take place in crown glass if the incident rays impinged on the plane internal surface at an angle of forty-one degrees, with flint glass and other media at much lower angles. In tracing rays through an object glass from the back focus, we know from this law that, whenever a ray at an inclination greater than forty degrees in the body of the front lens is about to fall on the internal surface of the plane front, that angle is the *limit* beyond which the rays will not emerge to a focus in *air*. But, if the *external* medium be *water*, we may use a formula for the construction of our lens that will enable us to obtain an aperture approximating to double the critical angle between glass and water, that is to say, nearly 126 degrees measured in the body of the front lens. And if our formula be so designed that the external medium is a highly refractive oil, the angle of total reflexion is practically nullified, and the limit of aperture is subject only to the practical difficulty of working lenses of the most suitable media. If the optician should ever succeed in giving true figure to diamond lenses, we may then, indeed, believe we have reached one of the limits of excellence imposed by nature.

Mr. Mayall said: "The advance, then, that has been made in the utilization of larger apertures amounts to this: That, whereas, with the dry lens on a balsamed object we are absolutely limited to an aperture less than eighty-two degrees, measured in the body of the front lens. This *limit* is proved by the diagrams I have shown you of the maximum angle that can be computed for a lens to have a front focus in air. It is also proved by a consideration of the angle of the image rays, as they are radiated from the object itself in balsam; for, although this angle of image rays, viewed as nascent from a *self-luminous* object capable of scattering rays in all directions, may be 180 degrees in the substance of the balsam and cover-glass, of this 180 degrees only eighty-two degrees of the central portion can emerge into *air*—all the rays beyond this limit are internally reflected at the cover-glass. This cone of eighty-two degrees becomes 180 degrees in air, and a large part must necessarily be lost by reflexion at the first incidence on the plane front of the lens. But, with a formula permitting the use of water medium between the front lens and the cover-glass, the aperture of the image rays may reach 126 degrees—double the critical angle from glass to water; and, with oil medium, the aperture is limited only by the *form* of front lens that can be constructed by the optician, as demonstrated by Professor Stokes in his recent communication on the 'Theoretical Limit of Aperture,' at the Royal Microscopical Society."

Next, Mr. Mayall explained that, to obtain the fullest effect of the increase of aperture in the image-pencils that can be rendered available by means of the immersion system, the illumination must also be by immersion means. These means were all based on the same principle—the canceling the plane surface of the base of the slide by affixing a prism or lens in immersion contact, so that rays more oblique than forty-one degrees may reach the object. If the base of the slide were plane and in air, the most oblique ray from air—say the ray eighty-nine degrees from the axis—would be refracted in the body of the slide to less than forty-one degrees, and this refraction would take place after the immense loss by reflexion at the first incidence. So that this ray of forty-one degrees inclination arrived upon the object with very feeble intensity. By cementing a suitable lens on the base of the slide, the ray of forty-one degrees, or any other of greater or less inclination, *and of any degree of intensity*, could be made incident upon the object, the intensity of the light being then merely dependent on the source of illumination. The *quantity* of light that could be transmitted *directly* by any lens varies as the solid cone. Viewing the apertures of dry lenses and immersion lenses, merely in relation to their capacity for *directly* transmitting light, Mr. Mayall said: "The maximum angled dry lens might be expressed by the quantity three: whereas, if the immersion lens had an aperture of 110 degrees measured in the body of the front, the quantity of light directly transmitted would be represented by five—supposing, of course, that the fullest immersion means of illumination were used. Those who have asserted that the immersion system has no property for enabling us to utilize a greater pencil from a balsamed object than eighty-two degrees are thus brought to face the explanation of this enormous difference in the light-transmitting power. The mode of evasion adopted is to assert that it is only as *mere light* that the greater cone is transmitted, *not* as image-pencils. When we point to the photographs in proof that image-pencils are there fixed for actual inspection—images that can not be obtained with dry lenses—we are met by more and more evasion, until we are wearied with following such antagonists into the mazes of discussions, which a friend of mine characterizes as 'Literature fit for desolate islands.'"

Mr. Mayall gave diagrams and described the action of the various immersion illuminators, referring to Mr. Wenham's original right-angled prism, truncated hemi-spherical lens, and immersion paraboloid, also his Reflex Illuminator, in all of which rays beyond the angle of *total reflexion* were utilized by reflex action from the cover-glass on to the surface of the object. Their effect on the object was thus seen by means of *reflected* rays from the object up to the aperture of the lens used, and, obviously, the reflex action could only take place with dry lenses. This reflex action must be regarded as Mr. Wenham's special discovery; it was not the same as the modern use of these and similar appliances for obtaining *direct* rays upon the object, and which proved the existence of apertures capable of direct transmission up to 127 degrees measured in the body of the front lens. The most practical modern appliance was probably the hemi-spherical lens which Messrs. Ross were adopting in connection with their new form of stand, based on the "Zentmayer Centennial Stand." Tolles, of Boston, had devised what he termed a "traverse-lens," which was admirably practical. Mr. Stephenson, the treasurer of the Royal Microscopical Society, had quite recently exhibited his "Catoptric Immersion Illuminator," which may be used with microscopes having thick stages. Mr. Mayall was unable to say whether light of sufficient intensity could be obtained with this appliance as devised, but there would be no difficulty in adapting a condensing lens to it. The devices for obtaining direct oblique light required the use of a thin stage; and, therefore, he (Mr. Mayall) was very glad to hail the success of any appliance which would convert axial light into oblique light; for, by these means, the possessors of the older forms of stands, in which the stage was generally of considerable thickness, might enjoy the pleasure of seeing the best resolution their lenses were capable of. He was convinced that hundreds of immersion lenses were in existence quite competent to the task of fairly showing *amphipleura pellucida*, if only the proper kind of illumination were employed.

Mr. Mayall concluded by a warm defense against the attacks of the microscopists who ridicule those who take special pleasure in the examination of diatoms, saying: "I regard *test-objects* as the means by which we are to verify the power of our lenses, and by which we are to improve our skill in manipulation. It is by careful training with test-objects that we learn when the microscope is being used at its best. Thus we train the eye and the hand until manipulation becomes a scource of pleasure in itself. The attempt to throw opprobrium on those who are skilled in the exhibition of diatoms by calling them 'diatomaniacs' is the feeble refuge of dunces, who thus endeavor to conceal their own incompetent and bungling manipulative skill by the general charge that what they can not do themselves is a trivial and worthless occupation. The improvements in the microscope are almost wholly due to the criticisms of amateurs skilled in the exhibition of test-objects. No musician is considered an executant unless he has mastered an infinity of exercises by which the actual use of his instrument is acquired. Why, then, should it be supposed that the microscope needs no special training? It does need a special training. And the more thoroughly we possess a knowledge of the principles on which the best results are obtained the more readily shall we obtain those results. The practice with diatoms should be regarded as the gymnastic of the microscope. To ignore this practice is voluntarily to paralyze our possible skill—which can not be done with impunity, as is proved by the immense mass of old results that are constantly being discarded to make way for interpretations based on more perfect instrumental and manipulative means. Continental anatomists have had fully ten years' start over us in the use of immersion lenses, and the mass of new observations superseding the older ones is becoming so great that our popular text-books on microscopy are fast becoming obsolete." Mr. Mayall resumed his seat amid applause.

The President having, in the name of the society, thanked Mr. Mayall, jun., for his paper, discussion was invited.

Mr. B. Lomax, Curator of the Free Public Library, said that a kind of immersion lens had been long in use by fishermen on the Sussex coast bearing the name of the water telescope, which consisted of a tub with the bottom replaced by a sheet of glass. Through this instrument, the bottom could be seen with a great depth of water.

Mr. J. Mayall, jun., said the contrivance mentioned by Mr. Lomax could hardly be designated a lens inasmuch as no actual lens was used. He should suppose that the plan was adopted in order to get rid of the moving surface of the water, which made it impossible to see objects distinctly at any depth. It would also be the means of getting rid of the enormous reflexion of light from the surface of the water, and doubtless, by properly screening the light from above, objects at considerable depth might be seen. Sir David Brewster, in his treatise on new philosophical instruments, published in 1813, had given a description of a telescope applied to a glazed tube that fitted on the front of the object-glass for viewing objects under water. He had also contrived an immersion lens for use in water tanks for the microscope, but this device can not be said to have had much to do with the development of the modern immersion lenses. The aquatic nose-piece invented by Sir David Brewster had been re-invented by sundry less illustrious inventors, each one persuaded of the originality of his genius. With regard to viewing objects at great depths in sea water without the use of special appliances, he remembered that Mr. Alfred Wallace, in his interesting book on the Malay Archipelago, mentioned having been able to see corals and brilliant-colored marine life at a depth over twenty feet in the bay of Amboyna. He had himself seen trout fish in the lake of Geneva quite out of reach of a long fishing rod in depth—the surface of the water being very calm and the actual depth of water being very considerable. But probably in no lake in the world was the water more transparent than in the lake of Geneva. The glazed tub referred to by Mr. Lomax might have been in use by fishermen for centuries.

Mr. Haselwood said the lecture that evening had taught them at all events that they must thoroughly know the science before they became expert microscopists. He hoped Mr. Mayall would accept the invitation of the president, and put the illustrations of his powerful address into practice. (Hear, hear, and applause.)

Mr. Mayall, in reply to a question, said the highest external aperture of a dry lens, measured from the radiant itself to the surface of the lens, would be, of course, within 180 degrees; measured in the body of the front lens this would be necessarily less than eighty-two degrees.

The proceedings shortly afterward terminated.

Proceedings of the Biological Society of Paris.

Translated by R. B. Davy, M. D., Cincinnati, O., for Medical News.

LOCAL AND GENERAL CIRCULATION.

M. Frank communicated to the Society the results of his researches on the peripheral circulations of the carotid vertebral and femoral arteries. Cl. Bernard was the first to point out the independence of certain local circulations under the influence of vaso-motor innervation. In his experiments, M. Frank, after having tied the artery whose circulation he wished to study, applied a registering manometer at the peripheral end. By operating thus he could ascertain the difference in pressure at the peripheral end. These variations are maintained even after the section of the vascular nerves of the region, that is to say, of the superior ganglion of the great sympathetic for the carotid artery. He concludes that the local circulations, which exist independent for the most part of organs, are regulated by a peripheral nervous apparatus. According to M. Frank, there is a complete independence between the vertebral and carotid.

Derivative Currents.—M. Bochefontaine called the attention of his colleagues again to the derivative currents which are produced throughout the body of an animal, when any point whatever is excited by the aid of an interrupted faradic current. The currents daily employed by experimenters are wrongly considered weak. They produce, indeed, in man contraction of the muscles through the skin and subcutaneous cellular tissue. Sometimes the hand can not bear it. The currents are then not weak, but strong.

Cephalo-Spinal Fluid.—M. Bochefontaine has made some new researches on the cephalo-spinal fluid. In a certain number of the vivisections he found that the liquid existed sometimes in almost inappreciable quantities in the dog, and that without previous chloralization of the animal. Chloralization is not then necessary to cause this fluid to disappear, as M. Bochefontaine had formerly believed, by mistake.

Mode of Termination of the Sensitive Nerves in the Tactile Corpuscles.—M. Renaut explained the intimate structure of the tactile corpuscles, which he was enabled to study by fixing their elements with osmic acid. He described in the corpuscles of Meissner a multitude of compartments circumscribed by a frame of connective tissue. In the most of these compartments cellular elements are found. The nerve terminates in one of the central compartments. "This arrangement," said M. Renaut, "recalls that of the spinal cord in the external embryonic layer."

Caries of the Teeth.—M. Maurel, marine physician, has made a comparative study of caries of the teeth in people of different races. The author believes that this condition is always caused by acidity. From numerous observations taken by him it is seen that negroes have only their front teeth in good condition, their molars being almost always decayed. Coolies, on the contrary, have remark-ably beautiful teeth. M. Maurel admits for the beauty of the maxillary bones an ethical influence. There are, according to him, among the negroes, one decayed tooth in four; among the Europeans, one in nine; and among the Coolies, one in fifty-two. Among the red-skinned Indians of Guyana, who belong to a mixed race, the figures are intermediate.

Influence of Light on Vegetable Life.—M. Paul Bert repeated a communication which has been read before the Academy of Sciences, along with a series of very delicate experiments made on the sensitive plant. He has established the fact that one portion of the solar spectrum is indispensable to the life of plants, and this part comprises the orange and red light.

Electro-Muscular Contractility in the Wasting Paralysis of Infancy.—M. Ominus has seen in the wasting paralysis of infancy some phenomena which are observed in certain paralysis from cold. While very powerful induced currents do not cause any contraction in the muscles of a paralyzed limb, these muscles can be made to contract with relatively feeble continued currents. This difference of contractility in the affected muscles only manifests itself in the first stage of the disease. In a limb paralyzed for several years the contractility is almost abolished for both kinds of electrical currents. These electro-muscular reactions cause M. Ominus to think that the terminal extremities of the nerves are affected in the wasting paralysis of infancy.—*Le Progres Medical.*

Brown-Sequard's Lectures at the College de France.

TRANSLATED BY R. B. DAVY, M. D., Cincinnati, O., for MEDICAL NEWS.

THE course of lectures on Physiology by Prof. Brown-Sequard commenced on the 2d of December last. In the opening lecture he gave a synopsis of the subject-matter he intends to develop this year. Using his own expression, he will combat nearly all the doctrines actually admitted on the physiology of the brain, and principally those pertaining to cerebral localizations.

He will study the mode of action of the brain on the spinal cord; he will discuss the existence of two brains or one only, and review all the brain lesions which can produce morbid and physiological phenomena. According to him, each half of the brain possesses all the functions of the encephalon. It is capable of all the acts, and can appreciate all the sensations. He hopes to show that the necessity of a decussation of nervous fibers from right to left, and conversely, is not indispensable; and that each half of the brain can appreciate the sensitive and sensorial impressions of the two halves of the body.

Leaning upon this fact—that the fibers of communication between the brain and spinal marrow are few in number—he declares that the theory of a nervous chain is false and should be rejected. The mechanism which he hopes to render acceptable contains an hypothesis of the existence of pyschical powers spread throughout the cerebro-spinal axis, carrying its sensations to the nervous cells, and the mode of communication between these diverse psychical powers and the intellectual powers is made as if by a sort of galvanic current. Very few fibers of communication are sufficient then to transmit the message to the nervous cells ready to receive it.

"I believe," said Brown-Sequard, "in the existence of cerebral localizations; but I maintain that the localizations, instead of consisting in circumscribed points of the brain, exist in another manner. They are composed of elements scattered throughout the economy, so that each center has cells of very different functions." He cited certain facts which, according to him, demonstrate that the center of speech is not situated in the posterior part of the third left frontal convolution, where Broca has located it.

As may be seen, Brown-Sequard wishes to make people admit doctrines in physiology radically opposed to those we now understand. He gave a rehearsal of his theories in 1876 at the Biological Society, and has done the same thing since in other places, especially in the United States.

We will end by adding that he announced at the beginning of his course his intention not to make experiments as was the method of his predecessor, the lamented Claude Bernard, but to rely everywhere on facts to demonstrate his teachings. "Experiments in this matter are, moreover," said he, "very difficult, for they are under the influence of an irritation, and very often fail. It is my belief in truth, and the numerous facts I have collected, which will sustain me in the path I have marked out."—*Le Progres Medical*, December 7, 1878.

SELECTIONS.

Clinical Lecture, Jefferson Medical College Hospital.

CLINIC OF PROF. W. H. PANCOAST.

GENTLEMEN:—I take great pleasure in meeting you to-day, to inaugurate my clinical service in the Hospital of the Jefferson Medical College. You are already familiar with the practical method of our surgical clinics as so admirably shown by my distinguished colleague, and they are designed to illustrate the teaching of the professorial chairs, while at the same time relief is given to the vast number of the unfortunate and suffering poor, who crowd the waiting room on clinic days.

In succeeding my colleague, I shall give my clinics in the same practical way, and while showing you what I deem the best methods of surgical treatment in operations, surgical injuries and deformities, point out to you always the anatomy of the part involved. Thus I trust, I will impress upon your minds the anatomical relations of the structures affected by an operation or other surgical treatment, so as to illustrate the daily instruction that I have the honor to give you.

The first case which I show you is interesting as a result, and the gentleman will kindly walk among you so that you can all see the condition of his eye. He is a private patient, and came to me some thirteen years ago for an ulcer of the right cornea. I found the five coats which compose the cornea, so completely perforated that apparently only a thin film remained as the anterior wall of the aqueous humor, whose posterior wall is the iris.

I warned him that it might rupture at any time, and when it did, to notify me as soon as possible. The rupture occurred as I anticipated, and I was so fortunate as to get to his assistance almost immediately.

I found the iris floating freely and largely through the perforation, and immediately taking delicate hold of the portion protruding, cut it off with a pair of fine and sharp scissors. After the iridectomy I put him at rest and ordered a diaphoretic anodyne with cold applications to the eye. He speedily recovered with proper treatment of the ulcer. The artificial pupil so made is called by the opthalmologist, Colobma Iridis and it has served the gentleman well. The eye has been thoroughly useful and free from any weakness. Owing to some night work by gas-light, he has had a renewed attack of conjunctivitis, and, as in a cicatrix, the innodular tissue can not withstand inflammation as well as a normal structure, the leucoma or albugo had again become an ulcer.

By antiphlogistic treatment, scarifying the loaded blood-vessels running to the ulcer, and by proper lotions, I have again cured him of the ulceration of the same spot that I treated thirteen years ago. As he was at my office, I asked him to come here with me to-day, thinking it of interest to show you the result of such an iridectomy. Without the speedy iridectomy I then performed, I think he would have lost his right eye, with the attendant danger of a sympathetic inflammation in the left, and it is valuable for you to see how useful an eye may still be after such an operation.

When I performed the operation of extraction of cataract, I always prefer to perform an iridectomy, as an active antiphlogistic method of preventing subsequent inflammation. I have seen several cases where the cornea has been torn open by foreign bodies, and I recall two in my own practice, where I was sent for at once. One, where the cornea was torn open by a pair of scissors accidentally thrust in the eye, and the other, where it was torn open by the iron point of a child's top. In both these cases the iris floated forward in the wound, as the aqueous humor poured out. In each I at once performed an iridectomy, and had the pleasure to have my patients, both girls, recover with perfect sight. I have also been called in consultation in other cases, where a semi-lunar injury has happened, the cornea torn open, and treated without iridectomy, and in each of these cases, which I saw some days after the accident, the intra-ocular inflammation had advanced so far that the eye was lost.

This boy of fourteen years of age, who now presents himself, is an interesting case. You see how contorted is his right arm. The forearm is flexed, and the fingers are forcibly semi-flexed. I can only extend them by strongly flexing the forearm on the arm. You see a large cicatrix extending nearly the whole length of the front of the forearm, and another upon the anterior surface of the arm. Both these marked cicatrices involve the muscular structure beneath them, and this makes the difficulty of the cure. The muscular bellies of the first layer of flexor muscles, and of the flexor sublimus digatorum perforatus manus, are all destroyed, or nearly so, and the tendons are involved in the cicatrix. This injury is the result of a gunshot wound. As the boy carelessly pulled the muzzle of the gun to him, the gun went off, and its charge passing upward, destroyed the soft parts, so that the cicatrices are such as you see them.

If the cicatrices involved the skin, by a plastic operation I might bring the arm and fingers straight, but as the muscular structure is destroyed, no manipulation of the skin by a plastic operation would overcome the difficulty. I think, however, by doing a tenotomy at the wrist, I may benefit the patient. The skin, you notice, is very tense, and may give away under the stretching. As the patient is etherized and now ready, I make a puncture with this delicate knife, and insert a small sabre-shaped blunt-pointed tenotome. Slipping it beneath the skin, between it and the tendons, I now make the tendons tense by extending the hand and turning the edge of the tenotome upon the tendons; so tense are they that they cut themselves through on the blade. I have cut the palmaris longus, the flexor carpi radialis, the tendons of the flexor sublimus, and you see how the hand and fingers straighten out. To gain all I can by this operation, I now forcibly extend the hand on the forearm, to tear up the connective tissue—you hear it give away; and now the skin has given away a little, so tense was it. This, I think enough. You see we have made a wonderful gain, and hand and fingers look quite natural, as I extend them gently. I will now draw this little wound in the skin together, with my black silk ligature, after the carbolic spray is used. I now apply the carbolized oxide of zinc dressing over the adhesive strips, and put the arm at rest. I place the arm and hand upon this splint. Applying the splint to the back of the forearm and hand, so as to flex the hand and allow the divided ends of the tendons, to approach each other. As the plasma becomes organized and the wound heals, I will gently, day by day, extend the hand more and more, until I can finally put it out in a straight splint.

The next patient, Mrs. ——, has a large scirrhus cancer of this right breast. It has been of slow growth, but is now so large that it weighs down the breast, and the patient now complains of sharp, lancinating pains starting from it. The nipple, as you notice, is much retracted, but the tumor is yet movable within the breast, and is not adherent to the ribs. This is favorable, for when the deep fascias are involved, and the cancer becomes bound down to the ribs, the lymphatics, which pierce the intercostal spaces, become affected, and carry the poison to the intrathoracic structures, which finally may become involved. The glands in the axilla are not affected. So I consider this a favorable case for operation. She is a stout, heavy woman, as you see, and the breast is enormous. As she is now etherized, I will proceed to the operation. My assistants are in their proper positions, clean sponges, water and napkins at hand, and here are the instruments I may need. This well-balanced, medium-sized, sharp scalpel, ordinary operating forceps, and arterial forceps, tenaculum and ligatures, if I shall need them, though I shall do the operation so as to have the least amount of hemorrhage. I now penetrate the integument with my knife, so as to make a sufficient deep puncture, and sweeping my knife on each side of the depressed nipple, so as to leave it on the cancer, bring it down and out on the right and dependent side, so that that the lower end of the incision may be in a good position to drain the wound. The incision is about four and one-half inches long—long enough even for the removal of this large tumor. In making an incision it is always neater to commence it with a puncture, instead of with the edge of the knife, as I have seen done. An incision made with the edge of the knife will not cut through the skin completely, and if the patient is not etherized gives him pain in the manipulation of the wound.

My incision having been made through the skin and superficial fascia, I use the knife now as little as possible, and break away with my fingers or the handle of the scalpel, the adhesions of the tumor, only using the edge of the knife to nick or cut the strongest adhesions. By this means I obviate hemorrhage, and also pull out a great number of lymphatic vessels which run from the cancer, and are popularly known as the roots of the cancer. It is well, I think, to get away as many diseased lymphatics as possible, and now I show you in my hand the cancerous tumor, with the nipple, and a little of the integument around it. You see, although the wound is large and gaping, that there is but little hemorrhage. Here are two little arteries spouting. I seize each of them with the arterial forceps and tie them with a black silk ligature. This ordinary black sewing silk is not exceedingly strong, but when you pull the small artery out from the flesh, and tie this artery alone, it is not necessary to use much force with the ligature. It is only when a mass of oozing flesh is to be tied that you need a very strong ligature. That is a draw-back to the speedy healing of the wound, as it makes more suppuration in the detaching of the mass tied. I prefer when possible to draw out the artery and ligate it only. The wound is glazing over, under the action of the air, itself a good styptic, but to give my patient all the benefits of improved surgery, I shall now wash it out carefully with the carbolic spray from this atomizer, using a solution with ten per cent. of carbolic acid. I thus cleanse the wound thoroughly, and at the same time you see the styptic effect of the carbolic acid, by the whitening of the red wound, and I believe the spray also obtunds the sensibility of the numerous divided nerves. I do not follow Mr. Lister's antiseptic method, which is so much used now in Europe. I have seen this last summer, in England and France, several operations after his method. The surgeon and assistants working under a constant spray, sometimes made by two steam atomizers, the instruments lying in a tray of a strong solution of carbolic acid, and the ligatures and needles steeped in the same solution. Upon more than one occasion in London I noticed that the spray was all spent on the coats of the surgeon and assistants, and did not touch the wound, and yet they were satisfied and the operations resulted well. But I believe in carbolizing the wound in the way I have done, and in establishing a good drainage. In this case, instead of enlarging my incision I make a puncture at the most dependent point, and insert a piece of drainage tube, pierced with a black silk ligature, whose two ends I will retain under the adhesive strips, thus allowing free vent for the discharges, and permitting my wound to heal almost by first intention. I now draw the lips of the wound together with my black silk sutures, which I prefer, as their color permits me to find them afterward easily, and I do not run the risk of tearing open the wound by hunting for a white ligature matted in the discharges. The ligature is also an animal one, made by the silk worm, and the dye used in its preparation, contains iron, making it, I think, a healthy ligature, for I find them always well borne by inflamed tissues. Again, its color being so distinct and marked against the skin, it permits me to use as delicate a black silk ligature as I choose, and I find it the best ligature in all plastic operations, and in œdematous parts, as the prepuce and eyelids, also in the conjunctiva of the eye. In good plastic surgery your flaps should lie loose, and, therefore, no great strength is reqired in a ligature. and as delicate a one as possible should be used, so as to have the least inflammation. The larger the ligature, the more of a seton is it, and the greater the inflammation. So a delicate black silk ligature is less of a seton, is most easily seen, is more healthy to the skin, and I have been surprised more than once to see how long it will remain without irritating, even after the wound has entirely healed. It is also most easily obtained, as one can always find good black sewing silk in a lady's work basket. While I have been talking we have applied good broad adhesive strips, to support the wound, whose lips are drawn neatly and completely together by the black silk suture. Drawn completely together for the drainage is here below by the drainage tube. I carry my strips of plaster completely around the body, so they shall not slip, but not so tight as to interfere with my patient's respiration. I now cover the wound thoroughly with two layers of patent lint, well spread with carbolized benzoated oxide of zinc ointment, thus sealing up the wound with the atmospheric air. I now carry another bandage around the chest, to retain the dressing, and another around the arm and hand of this side, to retain them in position and keep the wound at rest.

The patient is now thoroughly, neatly, and nicely dressed, and we will send her on the stretcher to the elevator, to be carried to the ward. As she is lifted you can see the drainage tube. Its retaining strings are under the adhesive strips, so it will not come out, and the plaster and bandage do not prevent our seeing it or the future free exit of the discharge.

I think, if we are fortunate, we will find the wound heals almost by first intention, and the discharges having free vent by the drainage, will not be pent up or produce irritative fever.

I have ordered a quarter of a grain of morphine, to be given at once, and the house mixture afterward, to prevent fever and produce sleep.—*Medical Bulletin.*

Notice.—Since the above operation, in seven days the wound had entirely united. In ten days all the ligatures were removed, and the patient is now ready to return home.

The Iodide of Potassium in the Treatment of Asthma.

BY B. F. WESTBROOK, M. D.

THE following notes of cases of asthma in which the iodide of potassium has been used are intended simply as a contribution to clinical medicine. I do not propose to discuss the various theories as to the nature of asthma. The term, as applied by me at present, is applied to the condition which is characterized by dyspnœa of spasmodic character, not dependent upon cardiac or laryngeal disease. It is accompanied by prolonged and difficult expiration, with dry rales. It may be associated with emphysema or bronchitis, or with no apparent lesion of the lung. In the latter case it is known as "nervous asthma."

The following cases were all associated with apparent pulmonary lesions, either bronchitis or emphysema. They were all treated by me in the out-door department of the Long Island College Hospital.

No. 1.—An Irish woman, fifty years old; married. Her health had been good up to two months ago. Since that time she has had a hard, dry cough, accompanied by slight tenacious expectoration. After eating she has a feeling of distress in the epigastric region, and a belching of gas. Coincident with this there is an accession of dyspnœa. At night she has great dyspnœa and a noise in her chest. This passes off in the morning, when the expectoration becomes more free.

The chest is resonant on percussion; the respiratory sounds harsh, and accompanied by sibilant and sonorous rales, particularly on the right side. There are a few moist rales in the upper part of the right lung. The vesicular murmur is indistinct. She was given the following mixture: Take of potass. iod., one drachm; syr. senegæ, four drachms; aquæ ad three ounces; mix; a teaspoonful four times a day. At the end of a week she reported that the dyspnœa was greatly relieved and that she felt better in every way. The dose of the iodide was increased from two and a half to five grains. She continued to improve for two weeks more, when she ceased coming.

No. 2.—This was an Irish laborer, about thirty years old. He was employed on a railroad and was compelled to work on the track, frequently in wet weather, and when the damp earth was being turned up. He had a good family history, except that his father had suffered severely from asthma in the latter years of his life.

The patient had been healthy up to August, 1877. He then, after working in a very wet place for some time, had a severe cough, with a small amount of thick, tenacious expectoration.

In the night he had terrible attacks of dyspnœa, which obliged him to leave his bed and sit by the open window. Toward morning the dyspnœa would subside, with the occurrence of more free expectoration. He had been suffering for two weeks when he came to the dispensary. Examination of the thorax gave the signs of bronchitis, with the rales of asthma. The tongue was coated and the bowels constipated. He was ordered twelve grains of calomel to take at night, and a mixture containing hydrarg. bichlorid., three grains; potassii iodid., two drachms; syr. senegæ, three ounces; mix; a teaspoonful three times a day. Two days afterward he reported that the dyspnœa and cough were considerably relieved. The mixture was continued for ten days longer, when the bichloride was discontinued and the bromide of potassium and hydrocyanic acid added to the mixture. The latter ingredients were added with the object of relieving the cough. It has appeared from my observation, that while the iodide relieves the dyspnœa, it does not have as favorable an effect upon the cough. In five days more, the dyspnœa having entirely disappeared, he was given a stimulating expectorant. This was followed in a few days by a tonic, and we saw nothing more of him for five months. He then came to the dispensary again, in my absence, and was seen by my friend, Dr. Kretszchmar. He said that he had been perfectly well during the five months, but had recently caught cold again and the trouble had returned. The doctor attended him at his house for some time, but failed to relieve him. He transferred him to me at the end of a month, and I labored with him for several weeks with no better success. His symptoms during this time were as follows: Almost total anorexia; the tongue covered with a heavy white coating, occasional vomiting, constipation. Frequent cough, and the most intense dyspnœa, lasting throughout the twenty-four hours, but worst at night. A copious expectoration of thick, sticky muco-pus. The color of the face varied from a dusky hue to a distinct purple. The thorax was distended, and its movements only slight, in spite of his great exertions; the percussion note was very resonant. Upon auscultation no vesicular murmur could be heard, but loud whistling rales were audible over the entire chest, with large and small mucous rales, particularly in the right lung. Expiration was prolonged. Repeated examinations led to the discovery of no complicating diseases in the other viscera. Notwithstanding this, the tongue retained its heavy coating, the anorexia continued, and no abatement of the respiratory difficulties was to be attained by any remedy. Every known remedy was applied by me, as had been done by Dr. Kretszchmar before me. Narcotics, expectorants, anti-spasmodics, stimulants, such remedies as act upon the alimentary canal, digitalis for the heart, all to no avail. The iodide of potassium was given to the extent of a drachm a day, with no effect except to increase somewhat the expectoration. On one or two occasions, when there was a slight elevation of temperature, quinine was exhibited, but to no purpose. Once, indeed, at the suggestion of a student whom I had taken with me to see the case, I prescribed a grain each of calomel and aloes in a pill, three times a day, with quite well-marked temporary relief, but a relapse soon occurred. He was advised to enter the Long Island College Hospital. After leaving that institution he transferred himself to the care of Professor Armor, who tells me that his condition is the same to-day that it was a year ago. A serious lesion of some other viscus was suspected in this case, but the suspicion was never confirmed.

No. 3.—Miss N., æt. thirty-eight, Ireland; was a healthy woman up to five or six years ago, when she began to have asthmatic attacks. They have been associated with a slight bronchitis. She was troubled more in summer than in winter, and the dyspnœa was greatly aggravated at night. On her first appearance at the dispensary, September 5th, 1877, she was observed to be a rather fleshy woman, with a well-developed chest. There was no sign of emphysema. The chest was normally resonant on percussion and there were a very few sibilant rales. The prescription was: Take of potass. iod., two drachms; liq. potass. arsen., two drachms; aquæ ad three ounces; to take a teaspoonful four times a day.

September 10th the dyspnœa was considerably relieved. The treatment was continued. September 21st respiration was easy night and day. She said she had not felt so well for years. On October 1st she had caught cold and had rheumatic swellings of her extremities. There was also some return of the asthma, but not nearly so severely as before. She was put on treatment for the cold—viz: opium, capsicum and cinchom. At the of a week the rheumatic pains had disappeared, but there was some return of the asthma. As the Fowler's solution had previously given rise to some œdema of the face, it was now given in diminished doses, while the dose of iodide was increased. She improved rapidly, and did not find it necessary to come again till February 28th, 1878, when she had a return of her trouble in a mild form.

On similar treatment to that previously used, she did well up to the 26th of August, 1878, when she returned, saying that a few days before the dyspnœa had returned. Examination of the chest showed the same signs as at first, particularly prolonged expiration, accompanied by sibilant rales. I now gave her the iodide alone in seven and one-half grain doses three times a day. She has not returned since, and I learn on inquiry that up to the present time she has been very well, with only occasional slight manifestations of her old trouble. In August I examined the chest carefully, and did not detect any signs of emphysema, and none of bronchitis, unless the rales mentioned above are to be considered signs of that disease. The important points to notice about this case are, first, the slight evidence of the existence of bronchitis and emphysema; second, that the decrease in the quantity of arsenic and increase in the quantity of iodide of potassium did not lessen the efficacy of the mixture. Nor was it rendered less efficacious by the final omission of the arsenic, the iodide alone sufficing to relieve the symptoms.

No. 4.—An Irish laborer, fifty-five years old; had been suffering from asthmatic attacks at intervals for several years. The paroxysms are most frequent and severe in summer. Physical exploration showed a large thorax, hyper-resonant on percussion. The area of cardiac dullness was extremely limited; the apex beat and cardiac sounds were very weak. There was prolonged expiration, with dry rales. The prescription was: Take of potassii iod., three drachms; aquæ, three ounces; mix; to take a teaspoonful three times a day. He continued to return at intervals for about two months. The medicine was not changed. The improvement was constant.

No. 5.—An Irish laborer, fifty years old, has been troubled with a cough and dyspnœa for two years. The dyspnœa is greatest at night, and the trouble is always increased by catching cold. The dyspnœa is paroxysmal. The cough is accompanied by very little expectoration. He had the round, barrel-shaped, immovable chest of emphysema. The percussion note was vesiculo-tympanitic. The apex beat was lost, and replaced by a pulsation in the epigastrium. The expiration was prolonged, and accompanied by dry rales. He was given seven and one-half grains of iodide of potassium, dissolved in water, four times a day. He returned after a few days, saying that the dyspnœa was relieved, though the cough was as bad as ever. The bromide of potassium was added to the mixture.

This was a well-marked example of emphysema, which we could not hope to cure with drugs. It illustrates well, however, the power of the iodide to relieve the dyspnœa of asthma. It also illustrates the necessity which frequently exists of giving other agents to relieve the cough.

No. 6.—And Irish woman, over forty years old. She has complained of a cough, with dyspnœa, at intervals, for six years. Her health is good otherwise. She is nursing a baby eighteen months old. For the last two or three weeks the cough and dyspnœa have been very bad. She had the signs of bronchitis, with numerous dry rales, sibilant and sonorous. Take of potassium iodide, two drachms; aquæ, three ounces; mix; to take a teaspoonful every three hours. When she returned, two days later, the dyspnœa, which had been considerable, was relieved. The sibilant and sonorous rales had disappeared. The moist rales of bronchitis remained. Five grains of the chloride of ammonium were added to each dose of the mixture. She improved rapidly under this treatment, and at the end of three weeks the cough was so much better that she was put on the iodide of iron, as a tonic, combined with sanguinaria. She did not return again.

No. 7.—On the 10th of June, 1878, as I entered my department of the dispensary, I found a man half lying, half sitting on a bench, supported by his wife, and evidently suffering from the most intense dyspnœa. He was a Scotchman, fifty-six years old, a rigger by trade. He was a stout, muscular man, of medium height, and had always been perfectly well till three days before he came to me. He had been in the rigging of a ship, working hard, and while perspiring freely came ashore and lay down on the sidewalk near the opening of a cellar. As he lay he could feel the draft from the cellar upon his back. He fell asleep, and, on waking, felt a sense of oppression in his chest. This soon increased to a terrible dyspnœa, which had lasted for three days when I saw him. The chest was expanded, moving little, though the respiratory muscles were contracting actively. Percussion gave a hyperresonance. On auscultation the vesicular murmur was inaudible. It was replaced by loud dry rales, heard most during expiration, which was prolonged. The short cough was accompanied by no expectoration. There was no fever. He was given seven and one-half grains of the iodide of potassium every four hours. I subsequently saw him at his home, and caused him to continue the same medication. The dyspnœa was relieved rapidly, and he was able to go to work again in a few days.

No. 8.—An Irish woman, fifty-three years old. Had been suffering a long time from asthmatic seizures. There was prolonged expiration, with mucous and dry rales. She was given five-grain doses of the iodide four times daily, with the effect of relieving her dyspnœa. She was then put on a mixture of iodide and bromide of potassium, and was subsequently lost sight of.

No. 9.—Mrs. D., æt. thirty-five, Ireland. She has been troubled with a cough and dyspnœa for four or five years. She has six children, the youngest thirteen months old. She has less of the paroxysmal dyspnœa when pregnant. She has a well-formed chest. Percussion about normal. Prolonged expiration. Sibilant and sonorous rales. The dyspnœa and dry rales being well marked, she was ordered seven and one-half grains of iodide, in water, four times daily. She returned in twenty days, saying that she had been much better while she took the medicine, but since stopping it the dyspnœa had returned. It was repeated, and she did well for twelve days more. The prescription was again repeated, and she did not return.

No. 10.—Mrs. M., æt. 60, Ireland. The patient complained of an obstinate cough of long duration, with "whistling in the chest" at night. The cough was accompanied by a viscid, starchy expectoration. She also had obstinate constipation. I have no note of the examination of her chest. She was ordered seven and one-half grains of the iodide of potassium, four times daily and a cathartic pill. Three days later the dyspnœa and cough had both diminished. The treatment was continued. She was seen once after this, and some stimulating expectorants (sanguinaria and tolu) added to her mixture, while the quantity of iodide was diminished.

This completes the list of cases that I have to present. I have seen many more, but the histories are incomplete, or else the iodide of potassium has been combined with other drugs, so that its action can not be determined.

The merit of my list is that it is made from the records which I had never expected to publish, and which were therefore written by an unprejudiced hand. This is my apology for the meagerness of the details, particularly in regard to the previous histories and physical exploration. That they were all well-marked cases of asthma I can vouch for, as I take considerable pains in the examination of my dispensary patients. They are none of them cases of pure nervous asthma. That they all partook of the nature of the so-called nervous asthma there can be no doubt. For when the notes were made I was a firm believer in the theory of bronchial spasm, and would not have recorded any case as one of asthma which did not present the signs which are supposed to indicate spasmodic contraction of the bronchial tubes. The important point, which involves no theorizing, is, that in all but one the exhibition of the iodide of potassium was followed by subsidence of the dyspnœa. And in that one (No. 2.) it was efficacious in his first attack, and only failed in the second attack, when everything else failed too. I have found five to seven grains a sufficient dose, as a general thing. I usually give it four times a day, the last dose just before retiring for the night.

Notes on the Localization of Diseases of the Brain.

BY CHARLES K. MILLS, M. D. Neurolgist to the Philadelphia Hospital.

Read before the Philadelphia County Medical Society.

THROUGH the observation of patients, conjoined with autopsies, physicians can do something toward solving the problem of the cerebral functions, and my object this evening is simply to introduce the subject of the localization of diseases of the brain, by the presentation of some notes upon cases, with a few remarks on their import and bearing. For the sake of brevity, unessential details have been left out in reporting these cases, but nothing has been omitted that would affect their interpretation.

My first case was a married woman, aged 41 years. She came under observation four months before her death. Fourteen months before this time she had suddenly become paralyzed on the right side. Several years previous to this attack she had rheumatism. An aortic regurgitant murmur was discovered. It was ascertained that, when first stricken with paralysis, she had some difficulty in deglutition, with positive facial paralysis and aphasia.

On examination, she was found to have slight right facial paralysis, the lower part of the face only being affected. The forehead and right eye were not involved. She was decidedly aphasic, but could pronounce a few simple words, and seemed to understand what was said to her. She had well-marked paralysis of the right upper extremity. The shoulder was stiff; the forearm was semiflexed on the arm, and the thumb and fingers were also bent inward on the palm; but these parts could be straightened by force, only, however, to return again to their unnatural position. The entire limb was a little wasted, and she frequently complained of pain in it. Her right lower extremity showed some loss of motor power, but not the distinct paralysis observable in the upper limb. It was paretic rather than paralyzed, and exhibited no contractures. No loss of sensation could be made out. Farado-contractility was good on the paralyzed side.

This patient had phthisis, and also, as revealed by autopsy, an intra thoracic growth, probably carcinoma, and a tumor of the liver. She died exhausted, suffering much the week before her death, from dyspnœa and pain in her chest and right side.

The autopsy was held eighteen hours after death. No disease of the skull or membranes was detected. An area of yellowish-white softening was found, involving a small portion of the hinder part of the third left frontal convolution, the lower end of the ascending frontal, the entire surface of the island of Reil, and a narrow segment of the adjoining temporal convolution. The substance of the left hemisphere was paler than usual. The left corpus striatum and optic thalamus were normal. No other cerebral lesion was discovered. Slight vegetations were present on one of the crescents of the aortic valve, besides the other lessons to which I have alluded.

The second case was a man 40 years old, who had two attacks of paralysis of the left side, from which he had in both instances, in a few weeks, almost completely recovered. The arm and face had been more affected than the leg. Examination revealed a paretic condition of the lower part of the face, on the left side; the mouth was drawn very slightly to the right; the eyes and upper face were unaffected; he had no aphasia. The left upper limb was weak, but he could elevate it to a horizontal line, and perform all movements with it, but not vigorously. Neither arm, forearm, nor hand exhibited paralysis or contractures in distinct groups of muscles. The left leg was a little weaker than the right, but that was all. No loss of sensation or interference with the special senses was present. The right side of the body was normal. While under my care he had two local spasmodic seizures, each lasting not over a minute, one involving the left arm and the same side of the face, the other only the lower part of the face. No change in his paralytic symptoms, and no subsequent stroke occurred, but he died, a week after coming under observation, of what was supposed to be uræmic poisoning.

The post-mortem examination was made nineteen hours after death. The skull and dura mater presented nothing abnormal. The pia mater was œdematous and moderately congested, particularly over the right hemisphere. Anterior to the fissure of Rolando, on the right side, was an arc of distinct softening. It began above, about an inch from the longitudinal fissure, at the border of the fissure of Rolando, extending forward and outward so as to involve slightly the posterior extremities of the first and second frontal convolutions, and then bending inward and backward again toward Rolando's fissure, the edge of which it reached once more near its inferior termination. The area of softening was irregularly crescentic in shape, and varied in width from one fourth to three-fourths of an inch. The inner edge of the crescent and its ends, which were enlarged, were situated in the ascending frontal convolution. The portion of this convolution between the softened space and the fissure of Rolando remained unchanged. The diseased mass had invaded deeply the gray matter, and at each of its extremities had encroached upon the white substance. A small cylinder of the softened tissue reached to the median surface of the brain, about half an inch beneath the convexity. The arc of softening was the only discoverable lesion of the brain.

The lungs were œdematous. A cheesy focus was found at the base of the right lung. Both kidneys were highly granular.

My third case, reported in full elsewhere (*Medical Bulletin*, vol. i. No. 1, p. 13, January, 1879), was a man, 66 years old, who, for at least eighteen months before his death, had hemiplegia of the right side, with aphasia, the paralysis being most decided in the arm. He had marked loss of sensibility in the right arm, forearm, and hand, and the same condition, but less pronounced, in the right lower extremity. Fourteen days before he died he had two severe attacks of right unilateral convulsions, and a week later he had a similar seizure. His hearing was defective, and he was irritable and emotional.

Post-mortem examination showed destruction, by softening, of the following parts: a small outer rim of the island of Reil; a posterior segment of the third frontal convolution; the lower thirds of the ascending frontal and ascending parietal convolutions; the upper border of the first temporal convolution; the Sylvian border of the lower parietal, and the posterior portion of the upper parietal convolution.

Several examples of what I have supposed to be facial monoplegia have fallen under my observation, but I have not yet had the opportunity of confirming my supposition by an autopsy. In the Philadelphia *Medical Times*, for October 26 and November 9 and 23, 1878, is a series of "Lectures on a Case of Facial Monoplegia," by John Guiteras, M. D., physician to the Philadelphia Hospital.

I had the pleasure of seeing the specimen from the case, which is ably detailed and discussed in these lectures. The lesion which probably caused the partial facial paralysis present was a distinctly defined area of softening, which involved one inch of the length of the ascending frontal convolution.

The cases here reported may be looked upon as additional evidence that destructive lesions of certain districts of the cerebral cortex cause paralytic symptoms more or less extensive and permanent. They also indicate, from the local spasms occurring in the second case, and the unilateral convulsions in the third, that a destructive lesion of the cortex may at the same time be irritative, or that it may become so temporarily. In the first case, the aphasia, and facial and brachial paralysis, were due to a lesion of portions of the areas usually regarded as the centers for speech and for face and arm movements. The ordinarily given leg-centers, high up in the ascending frontal and ascending parietal convolutions, were not involved, although the right leg exhibited some loss of power. The transient character of the dissociated hemiplegia, which occurred twice in the second case, is of interest. The cutting off of blood-supply from the lodging of an embolus, in a case of this kind, may, in the first instance, include a larger area than subsequently undergoes softening. The effects of a sudden lesion also probably radiate for a time, for a certain distance, into neighboring parts. It will be recalled that the paralysis produced in animals by destruction of cortical areas was commonly transient. The arc of softening found in this second case was so situated as to involve only small portions of the general districts or centers for leg, arm, and face. The third case illustrated aphasia and tolerably complete hemiplegia from an extensive destruction of the cortical motor zone. The paralytic symptoms present in this patient resembled somewhat closely those produced by lesions of the basal ganglia. The unilateral convulsions were also similar to those which sometimes result from disease of the corpus striatum. The defective hearing, without disease of the ears, and the marked loss of sensibility on the paralyzed side, especially in the arm, are interesting, from the fact that some of the physiologists have located sensory centers in both the inferior parietal lobule and first temporal convolution.

I have notes of three unreported cases of hemorrhage into the optic thalamus, in all of which incomplete hemiplegia with hemianæsthesia had been produced. In each case the hemorrhage was large. The anæthesia in two was pronounced; in one it was slight, and better made out in the arm than elsewhere. No spasmodic symptoms were observed. In one case the crus cerebri adjoining was involved in the hemorrhage, this patient being markedly hemianæsthetic.

In two cases of hemorrhage into the corpus striatum well marked motor paralysis of the usual type had been exhibited. Anæthesia was not present, or, at least, could not be recognized. The lower fibers of the facial nerve were partially paralyzed; and the paralysis of the arm and leg seemed to me more decided than in the cases of hemorrhage into the thalamus opticus. In one case the clot was confined to the nucleus caudatus or intra-ventricular part of the corpus striatum; in the other, portions of both nucleus caudatus and nucleus lenticularis were included in the lesion. I give these cases simply because they are additions to actual experience, avoiding lengthy details, as the symptoms observed did not differ from those frequently reported. Recently, however, I presented to the Pathological Society of Philadelphia specimens from two cases of peculiar interest. In one of these the lesion was triple, consisting of a large clot in the right optic thalamus, a small cyst in the right corpus striatum, and a large cyst in the left corpus striatum, the symptoms being left hemiplegia and hemianæsthesia, without right hemiplegia. In the second case a small apoplectic cyst was present in the right corpus striatum, the patient not having been hemiplegic.

In still another case, never before reported, I found softening, involving the entire right island of Reil, a portion of the second and third frontal and of the third and fourth temporal convolutions, where they bound the Sylvian fissure, and two-thirds of the corpus striatum within the lateral ventricle. The symptoms observed during life were mental hebetude, slowness of speech (but not aphasia), dullness of hearing, slightly impaired sensibility on left side, and general muscular weakness. He was not hemiplegic, as we clinically understand the term hemiplegia. The muscular weakness was a little more evident on the left than on the right side, but he used both arms and both legs with almost equal facility, and no contractures were present.

From a study of these examples of lesion of the great basal ganglia, it will be seen that, while partial destruction of the corpus striatum usually causes typical hemiplegia, such is not always the result. In some instances little or no paralysis occurs. Hemorrhage may occur into the optic thalamus also, without motor paralysis, although in all of my cases more or less complete hemiplegia was present. According to Nothnagel, indeed, lesions of which the thalamus opticus is the ecxlusive seat are not followed by motor paralysis at all. He also says that it may be regarded as demonstrated that lesions in the interior of the thalamus opticus cause no disturbance of sensibility. (Ziemssen's Cyclopædia, vol. xii. pp. 148 and 149.)

Both the corpus striatum and optic thalamus are connected by fibers with the convolutions above, and below with the mesencephalon. In addition, a bundle of white fibers, called the internal capsule, is supposed to pass, compressed into a small compass, between the outside of the optic thalamus and the nucleus lenticularis, or portion of the corpus striatum which lies beyond the ventricles in the substance of the hemispheres. It is probable that within this internal capsule are included both the great sensory and motor tracts which go to, and proceed from, the convolutions, and it may be, as has been supposed by some, that true paralysis only occurs when the internal capsule is implicated directly or by pressure.

Time will not permit me, this evening, to go into any lengthy discussion of the various theories of localization and the question of the real nature of paralysis.

The broad fact that one-half of the body is controlled by the opposite half of the brain is of itself a strong point in favor of the general doctrine of localization. Cases without number, similar to those given in this paper, have been recorded to prove that paralysis usually appears on the side opposite to the brain lesion. Brown-Sequard's array of opposing cases is, after all, probably only sufficient to show that we may have exceptions to a great rule. This is especially likely, since recent embryological researches have shown that the discussation in the medulla oblongata is variable in character.

The tracts which go to and from the cortex also, doubtless, vary somewhat in their directions, and special centers, may differ according to the age and habits of the individual.

In regard to the nature of paralysis, my personal experience has not as yet been sufficient to enable me to come to an absolutely satisfactory opinion. With Bastian (Paralysis from Brain Disease, p. 50), I incline, at present, to think that several explanations may be allowed, in accounting for paralytic phenomena. Some of the symptoms may be due to irritation, others to destruction of brain tissue, and, in still other cases, injuries to the brain, besides causing direct symptoms, may produce stimulating or inhibitory effects upon more or less remote parts. I consider it probable, also, that a special form of inhibitory motor paralysis may result from a strongly irritative lesion of portions of the antero-frontal lobes. I reported to the Pathological Society of Philadelphia a case of fibrobroma, involving the first and second frontal convolutions, convolution of the corpus callosum, and corpus callosum, in which the paralysis present appeared to be of the true inhibitory type (Philadelphia *Medical Times*, January 18, 1879). I believe it not unlikely that we will learn to distinguish between paralytic symptoms due to inhibitory action, and those which are the result of pressure or tissue-destruction.

In concluding these brief notes, I would say to those who may question the value of such investigations that even direct practical results from a study of cerebral localization have not been entirely wanting. They have been obtained chiefly in the domain of surgery. Thanks to the labors of such men as Broca, Bischoff, Turner, and others, cranio-cerebral topography is now pretty well understood. The physician or surgeon can determine, with considerable precision, such points, for instance, as the relations of the fissures of Rolando and of Sylvius to cranial sutures, the superior levels of the great cerebral ganglia, and the situation with reference to external areas of such important convolutions as the third frontal and angular gyrus.

The surgeon's trephine may be guided with greater certainty than ever before to the seat of a lesion. Broca, in 1871, successfully located an abscess of the third frontal convolution of the left side, and reached the lesion by operation. Even supposing the position of an abscess of the brain to be accurately determined, it may be said that an operation might be dangerous or impossible, and I recognize the fact that operative interference would only hold out hope in a limited number of cases. In the matter of organic cerebral affections, however, a little advance is a great gain. Huguenin (Ziemssen's Cyclopædia, vol. xii. p. 819) mentions an instructive case, in which Renz succeeded, after extracting the blade of a knife, in emptying an abscess which lay deep in the brain by successive introductions of a subcutaneous syringe. The patient was cured. He lived eight years and a half free from all brain symptoms, and died from hemorrhage of the lungs (or stomach). It is true that in this instance an external opening was present; but it shows the possibility of emptying and healing an abscess deeply situated in cerebral tissue.

M. Proust (*Medical Times and Gazette*, December 16, 1876) communicated to the French Academy of Medicine the case of a young man who had received a bayonet wound on the left side of the head, and subsequently had partial aphasia and incomplete paralysis of the right face and arm, with other symptoms. With the aid of M. Terillon, trephining was performed. The aphasia and arm paresis instantaneously improved. Hebetude, which had been present, disappeared, and the patient eventually recovered. Trephining has been successfully employed in a similar case by another French surgeon, M. Lucas Championniere, who has given to the profession certain data for determining the "line of Rolando" (*Lancet*, July 7, 1877.) Aphasia, monoplegia of the face, arm, or leg, imperfect hemiplegia, limited convulsions, strabismus, and mystagmus, are among the symptoms which can now be successfully employed by the surgeon in deciding upon cranial operations.

In medicine a more reliable prognosis can be given in intracranial affections if we can locate with accuracy the seat of disease. Regional diagnosis also is often a great aid to general diagnosis: knowing *where* a lesion is, we can frequently come to a more satisfactory conclusion as to *what* it is; and thus we may be able sometimes to discriminate to the advantage of our patients between such conditions as clot, tumor, softening, sclerosis, and meningitis. Mental diseases are becoming better understood; some of them, for instance, being found to be due to lesions of the cortex, macroscopic or microscopic. Circumscribed cerebral meningitis is an affection which can not always be recognized from the general picture drawn of it in ordinary text-books; but a knowledge of the varying effects produced by the disease, according to the region of the brain covered by the inflamed membrane, will often help greatly to a correct conclusion.

The substitution of one region of the brain for another whose functions have been annulled by disease, through some system of development by training, is a new path in cerebral therapeutics, which holds out some promise, and is an outcome of the study of localization.

A study of the symptoms produced by involvement of successive districts of the cortex has done much to clear up the mists which have enveloped that interesting affection known as general paralysis of the insane.—*Medical Times* (Philadelphia).

Aching Kidney.

J. Mathews Duncan, M. D., LL.D., says, this disease is sometimes, both in men and women, very easily recognized. There are achings in cases of what is called floating kidney. The patient can put her hand on the lump, and say, "Here is the pain," and there is no difficulty in recognizing the disease. But there are some cases in which the disease is very difficult to identify. In pregnancy, for instance, right or left hypochondriac pain is very frequent. In many cases I have been able to be quite sure, from the history before and after pregnancy, that the disease was not to be classified in the vague way that is implied in giving it the name of hypochondriac pain, but that it was really a case of aching kidney. In pregnancy you have the very opposite conditions to those in floating kidney. If pregnancy is advanced, you can not get at the kidney to feel it and identify its position. Here I may remark that, while the disease often occurs in pregnancy, yet some women who are liable to it do not suffer while in that condition.

The disease in women is not a rare one, and its characters are the following: One or other kidney is the seat of pain. It is not a neuralgic pain; it is a heavy wearing pain, deep in the side. It is in the region of the kidney; and in many cases, as I shall presently tell you, you can easily identify it as being in the kidney itself. It is not generally that kidney-pain which is a familiar symptom of calculus. In such cases the pain is the pain of the pelvis of the kidney. You have in the region of the small ribs a boring or a nail-like pain. Patients with aching kidney generally point to the hypochondriac region, not to the back, as they often do in cases of calculus in the kidney. This pain is frequently accompanied by pain in the corresponding lower limb, referred most frequently to the course of the sciatic nerve, sometimes to the course of the anterior crural. The pain is often accompanied (and you will find this of importance throughout all the subjects of this lecture) by irritability—I do not say disease—of the bladder; and it is frequently accompanied by pain in the region of the ureter corresponding to the kidney affected. This pain is not rarely present only during the monthly periods. When it is present only during the monthly periods it may be classed with that disease, which is very ill-defined called dysmenorrhea. It should never be placed there unless you wish to use the word dysmenorrhea in a very wide sense. If we use the word as including aching kidneys, we might as well use it as including headache—a use which would be in accordance with what is extensively done by writers. This disease, however, often eludes the examination of the physician, because it occurs in many cases only during the monthly periods. In all cases it is then aggravated. I do not think I have ever seen a case in which the patient did not volunteer the statement that the pain was worse at the monthly time.

It is not usual to find both kidneys aching; and I guess —I can use no stronger word—that the left kidney is much more frequently the seat of disease than the right one. You are not left in your diagnosis in all cases merely to identification of the seat of the pain, although that may be sufficient. Frequently in the region of the pain you can find distinct fullness; that is a very important condition that I have no time to explain to you. It can scarcely be made out in a fat woman; but in many cases this condition of fullness over the affected kidney is easily recognized. In addition, swelling of the kidney or of the suet, or of both, is not rarely to be made out. The physical examination of the kidney is too much neglected. It is not in floating kidney only that you can feel the organ. In many women who are not nervous, yielding themselves freely to examination, and who are not fat, you can feel the kidney with distinctness; and in cases of this kind you can frequently make out, as I have said, that there is a swelling of the kidney or of the suet, or of both. There is also generally tenderness, sometimes great tenderness.

The treatment is to be conducted on the general principles applicable to the therapeutics of neuralgia or slight hyperæmia; and these two conditions are not so very remote from one another as may at first sight appear. A neuralgia sounds as if it were something quite different from a hyperæmic condition; but that has to be proved. The remedies I have found of most service in simple cases of this kind are tonic regimen and tonic medicines, especially iron in form of the tincture of the perchloride combined with mild diuretics in small quantity, and especially the common sweet spirits of niter.—*Medical Times and Gazette.*

Salicylic Acid in Scarlet Fever and Diphtheria.

A CORRESPONDENT, in the *British Medical Journal*, says: It may be interesting to some of our readers to know that in salicylic acid we have one of the most reliable remedies in the treatment of scarlet fever and diphtheria. For the last three years I have used, with unvarying success, the salicylic acid suspended in mucilage in both mild and severe forms of scarlet fever, and have seen the throat-symptoms and fever rapidly abate, and the patients make rapid recoveries. On being called to a case, I have given doses, varying from five to ten grains every two hours, until the throat-symptoms and fever abated, and find that little patients, for whom we can do so little, when obliged to use the mop or brush to the throat, experience no inconvenience in taking this medicine, which, being simply in a state of suspension, has a chance of, at least a portion of it, remaining on the throat, and so acting as a topical remedy, whilst the remainder acts as an invaluable antipyretic.

The success in cases of scarlet fever has led me to try the same remedy for diphtheria; and I am happy to say, that, in the most virulent cases of diphtheria, I have seen the pellicle broken up and the diphtheritic patch removed in a marvelous manner. Indeed, since the use of salicylic acid in diphtheria, I have not seen one fatal case, although several were of a dangerous type. It is but fair to say that, in diphtheria, my mode of action is giving the salicylic every four hours, and tinctura ferri perchloridi (P. D.) alternately with it. Some may probably say, "How do you prove that it is salicylic acid which removes the patch, when you use iron also?" My answer is, that at first, I trusted solely to salicylic acid, and found, in mild cases, that it answered every purpose; but, that in more severe cases, accompanied with much debility, there seemed to be a tendency to a return of the disease on discontinuing the remedy. I was thus led to use the iron, alternately with the acid, as a blood restorer. To prove that iron was not the sole active agent in the cure, I can but point to the many failures of iron as a local application in the past treatment of diphtheria; whereas, with the salicylic treatment, I have not known one single case of the pellicle spreading under its use.

I append the form I use:

℞. Acidi salicylici . . .	ʒ i vel. ʒ ij.
Syrupi simplicis . . .	ʒ iv.
Mucilaginis tragac . .	℥ i.
Tinctura aurantii . . .	ʒ iv.
Aquæ. qs. ad . . .	℥ vi.
Fiat Mistura	
Capiat	ʒ iv. 2 dis horis.

Treatment of Pleuritic Effusions.

BY A. M'KAY, M. D., L.R.C.S., AND L.R.C.P., EDIN., INGERSOLL, ONT.

The treatment of pleuritic effusions, by means of operative procedure, has engaged the attention of the profession to a considerable extent of late, and it is now generally conceded, that when the fluid in the pleural cavity assumes a purulent character, that when the chances of rapid absorption is done away with, and the collection of fluid, by its local as well as constitutional efforts, causes impairment of the vital functions, it is then the duty of the physician to resort to operative measures for relief. I will not take up your time in discussing the advisability of interference in cases of recent effusion, where the evidence is altogether in favor of its being serous in character, for such cases will always have to be decided by the circumstances of the case, and the urgency of the symptoms. For on the one hand we see cases where absorption takes place rapidly, and again we see almost instant relief from the withdrawal of fluid by mechanical means. It is in reference to the treatment of empyema that I wish principally to engage your attention.

Dr. Aitken, in his "Science and Practice of Medicine," published prior to 1869, remarks that if the fluid, after the first tapping, becomes purulent, an almost certain fatality attends such a change. Dr. Flint, in his "Principles and Practice of Medicine," states that if the pleural cavity be filled with pus, it will not be absorbed, but, if life be sufficiently prolonged, and thoracentesis be not resorted to, it will, sooner or later, make its way either into the air passages or through the thoracic walls. We also find by referring to European journals, that it is not uncommon to have unfavorable results in those cases. In fact one English publication asks whether we may not be compelled to go back to old ideas again (in view of the number of deaths), and consider thoracentesis a very dangerous operation, and only to be performed as a last resource. We find different methods advocated by the profession. In Guy's Hospital Reports for 1877, Dr. Goodhart strongly recommends a free opening at the ninth intercostal space, and the insertion of a drainage tube, in the majority of cases. Also repeated tappings by means of an aspirator, and the attempt to exclude air from the cavity. Others recommend two openings, one high up and the other at the lower margin of the cavity.

The drainage tube, and local antiseptic treatment seem to be gaining ground, and I think we are indebted to a Canadian, Dr. Richardson, of Toronto, for its first introduction into practice in Canada. His case treated in 1869 is, at all events, the first recorded here, and I am glad to say that it proved successful. According to a number of writers on the subject, the great danger to be apprehended is the admission of air into the cavity; but if you will consider for a moment the form of the chest, with a non-yielding external wall, and also the probability of adhesions, surrounding the contracted lung, more especially in cases of long standing, it would not only be unscientific, but positively injurious, to attempt the withdrawal of fluid, and at the same time prevent the entrance of air into the cavity. It is well known that after air is admitted, that it changes the nature of the pus, and it sometimes very rapidly becomes offensive. This change would be a serious objection, providing it would increase the liability to absorption, but we have every proof to the contrary. The exclusion of air is also recommended on the supposition that it will interfere with the expansion of the lung; but we know that atmospheric pressure is the same, whether internal or external to the walls of the chest, and it could not possibly offer any resistance to the expanding lung, unless the opening could be hermetically sealed, which, under the circumstances, would be a very difficult undertaking. Again, if we attempt the exclusion of air for the purpose of facilitating the lung expansion, its place must either be supplied by fluid, or the expanding lung itself; but the attempt to rapidly expand the lung by means of a vacuum, might endanger the patient's life by forcible laceration of the adhesions or pleura. In cases of this kind the aspirator should never be used, under any circumstances, for the following reasons:—1st, It will not remove all the fluid in cases of long standing; 2d. It will not prevent re-secretion of fluid; 3d. Its employment is attended with danger in recent cases, from the point of the needle coming in contact with the expanding lung; 4th. Where the fluid is purulent the operation must be repeated, causing more inconvenience to the patient, besides the danger of piercing the lung, and in that way complicating the disease; 5th. The main object to be attained by its use, viz: the exclusion of air from the cavity, is not now considered necessary, for it is admitted, on all hands, that the admixture of air with serous fluid, will not lead to its becoming purulent.

Successful Transplantation of a Rabbit's Conjunctiva for the Cure of Symblepharon.

A. W. Calhoun, M. D., Professor of Eye and Ear Diseases in the Atlanta Medical College, reports a successful case, in the *Southern Practitioner*, the operation being performed as follows:

The patient was chloroformed and the lower lid separated from the ball, from the inner to the outer canthus, the incisions extending to the bottom of the lid, or as far down as the point at which the lower conjunctival fold should naturally be found. At the same time the outer canthus was slit up, so as to make the palpebral fissure of the same length. This left the whole inner side of the lid and the opposing portion of the ball in the condition of two large contiguous wounded surfaces. After the bleeding had altogether ceased, the rabbit's conjunctiva was prepared for transplantation. A large young white rabbit was selected, and the conjunctiva was rapidly but carefully dissected from its upper lid and the upper portion of the sclerotic, and from the two surfaces of the semilunar fold, at the canthus. This gave me a piece somewhat larger than a nickel, though of course of a different shape, which was spread out upon my thumb nail and kept constantly moist with warm water, the epithelial surface being downward or next to the finger. Four sutures were passed through the corners or angles of the conjunctiva, which (with the raw surface inward) was immediately transferred to the wound upon the ball, so that the epithelial surface of the transplanted piece opposed the wounded surface of the lid. The piece was large enough to almost entirely cover the wound upon the ball, and also the bottom of the incision, and to extend slightly up the inner side of the lid. It was made firm in its position by stitching it to the ball in three or four places, and the fold in the bottom of the wound was fastened by passing two sutures entirely through the lid within outward, and tying them on the surface of the skin. Particular care was taken not to put too much tension upon the piece of conjunctiva, and to keep it smooth in its new position. After thorough cleansing a roller bandage was placed over both eyes and the patient left till the following day. Each day the eye was dressed externally, but for fear of breaking up whatever adhesion that might have already formed, no examination was made of the transplanted piece until after the sixth day. The secretions were merely removed from the edges of the lids and the bandage replaced at once, keeping the patient quiet in bed. When on the sixth day the wound was examined, the rabbit's conjunctiva had taken firm hold upon the ball and that part of the lid covered by it, except upon its very edges, which sloughed off and become smooth in a few days. The transplantation could for some time be distinguished from the surrounding parts by its white appearance, but ultimately became of the same color. The lid was thoroughly separated from the ball, which now moved with perfect freedom in every direction. The lids, at present, admit the comfortable wearing of an artificial eye, which so perfectly conceals all the deformities as almost to appear natural.

It is very essential to the success of this operation that no clots of blood, however small, should remain between the transplanted piece of conjunctiva and the tissue upon which it is placed, and that the surfaces should fit smoothly upon each other, and be held firmly together until union has taken place.

Treatment of Erysipelas.

BY F. E. WOOD, M. D., LITCHFIELD, ILL.

A PAPER published in the December number of the *Recorder*, by S. W. Fowler, M. D., on Salicylic Acid in erysipelas, reminds me of a case I had some years ago. Mr. R., living in Missouri, was attacked very suddenly and severely with erysipelas on the end of his nose. He had been suffering several days with a dull heavy headache; was very constipated.

I at once applied a good coat of iodine, with a camel's hair brush, applying on that another coating of glycerine to exclude the air. With lunar caustic I penciled the limits of the affected parts. Gave a cathartic, and instructed him to repeat the iodine and glycerine once in every two hours. The next morning I found the patient resting comfortably, fever nearly gone, and his pulse was nearly natural. His bowels had been evacuated twice during the night, and his appetite was considerably better. On examination I discovered that his breath was bad, and also that the disease was making rapid progress inwardly. I proceeded at once to cauterize his nose, saturating the sponge; after which, by means of a small syringe, I threw a strong solution of carbolic acid up his nostril. I allowed him to exercise in the house, where he would not be exposed to the air.

On the third day the scarf skin commenced peeling off his nose and face, the painful and burning sensations had all subsided, and in a week I discharged my patient cured.

I do not know that I can name any cause for this complaint, but it appears to be prevalent in the southeastern portion of the State of Missouri, especially so since the war closed; since which time the inhabitants have devoted the principal part of their time to raising cotton. The soil there is sandy, and the surface bears heavy timber, with low wet marshes coursing through at intervals. The sun is terribly hot there during the summer months. The cause of erysipelas has been generally attributed to the men laboring in the hot sun more than they had been in the habit of doing before. As a proof of this, men that staid in the store or shop were not troubled with it; neither did it affect the women, except those of them who labored in the field.

As to the actual cause of erysipelas, it must be, with one exception, created by the way people live. That one exception is erysipelas caused by wounds. With that exception, a very common or poor diet, together with the climate and manner of living generally, I believe, generate the complaint. I believe, too, that erysipelas is caused many times by receiving bruises that do not heal, or get properly well, and in the course of one, two or three months, the inflammation caused by the bruise comes to the surface in the form of erysipelas.—*Ohio Medical Recorder.*

MICROSCOPY.

Microscopy as an Aid to Medical Diagnosis.

By Dr. C. Heintzman, New York.

In order to understand the urinary sediment it was necessary to be familiar with the anatomy of the kidney, and the anatomy of the kidney could not be understood without familiarity with its entire histology. When that was mastered the study of the urine could be commenced.

The anatomy of the kidney was first considered, and a detailed description given of the structure of the cortical and the pyramidal substance.

There were mainly three kinds of inflammatory processes in the kidney, formerly considered under the general term Bright's disease. He thought, however, that such terms as Bright's disease and Pott's disease were general terms, and should not be used by scientific men.

The inflammatory processes in the kidney were mainly of three kinds: 1. Catarrhal; 2. A more severe form, or croupous; and 3. A still more severe variety, suppurative nephritis.

The catarrhal process consisted essentially in a serous exudation, in which there was desquamation of a certain amount of eqithelium that could be seen in the urine. That primary condition could give rise to new connective tissue formed from epithelium, and at last terminate in the small granular kidney. If, therefore, we found in the urine a varying amount of albumen with epithelia of the kidney, recognized by their size, we could determine positively that an inflammatory process of a milder character was going on in the organ; in other words, that the patient was suffering from catarrhal nephritis.

In another series of cases there was present in the urine a varying amount of albumen and tube-casts.

Dr. Heitzman believed that the tube-casts consisted of protein substance, or a modified form of fibrinous or albuminous material. Hence there was no good reason for omitting the term *croupous nephritis.* He then referred to the various theories which had been given regarding the formation of tube-casts: 1. That an exudation took place in the tubules, coagulation occurred, and casts were formed; 2. That the epithelium lining the tubules was transformed into casts; and 3. That the casts were produced by the coagulation of material secreted by the epithelia themselves. The latter was the theory which he adopted.

A brief description of the various kinds of epithelium found in the uriniferous tubules was then given: 1. The epithelium of the convoluted tubules, which he thought were separated by a cement substance; 2. The flat epithelium of the loops of Henle; and 3. The cylindrical epithelium in the straight tubules.

In sections of kidney, which were the seat of croupous nephritis, cast material could be seen in the tubules; and of casts there were five varieties: 1. Hyaline casts; 2. Epithelial casts; 3. Blood casts; 4. Fatty casts; and 5. Waxy casts.

There might be a sixth variety or granular casts.

In ordinary acute croupous nephritis there were found in the urine hyaline and epithelial casts; but if the disease was very severe there might be blood casts.

In the chronic stage of the disease there were found granular casts; and if fat globule were present it was indicative of fatty degeneration of the kidney. Lastly, if waxy casts were found in the urine it was evidence that we had to deal with a waxy degeneration of the kidney.

Dr. Heitzman believed that whatever casts appeared in the urine, they indicated severe disease of the kidney, namely, croupous nephritis.

A recent German writer had advanced the opinion that mere hyperæmia of the kidney could give rise to casts, but he doubted the correctness of that opinion.

Not only did the casts indicate the stage and the nature of the disease, but they also indicated the portion of the kidney, which was the seat of the disease. In the mildest cases the casts were from the loop tubules and the convoluted tubules of the second order. If the number of casts from the convoluted tubules was considerable, it was known that the cortical substance was chiefly invaded. The mere size of the casts, besides the number and the character of the casts, was indicative of the disease called croupous nephritis. We very often met with casts from the convoluted tubules with a stump-like attachment, which indicated that they had also been formed in part in the straight tubules. That was a form of cast which he had not seen described, and indicated the exact situation of the inflammatory process. Based upon these principles, he had been able to make a diagnosis by examination of the urine alone, and had seen his diagnosis proved true by the subsequent history of the cases. As an illustration, the urine of a boy, six years of age, was brought to him for examination. He had suffered from a very slight attack of diphtheria. Three varieties of casts were found in the urine, and the case was set down as one of severe croupous nephritis. The boy died three days after in a convulsion.

There was possibility of recovery from croupous nephritis under the following circumstances: 1. When it occurred in connection with scarlet fever; and 2. When developed in connection with pregnancy, or, as occasionally happened, after delivery. In the first instance recovery was due mainly to the recuperative power possessed by children, and in the second class of cases it was because only one kidney, as a rule, was affected. Perfect recovery in both instances was possible.

With reference to *pus corpuscles* he was able to tell where they came from only when they were mixed with epithelia, which indicated the seat of the disease. If pus corpuscles with flat epithelia were found in the urine it was evidence that suppuration existed in the bladder. If the caudate epithelia were present with pus corpuscles it was evidence tha, the pelvis of the kidney was the seat of the suppurative process. If small epithelial cells were found with the pus corpuscles it was evidence that the inflammatory action was in the kidney itself. It was only in acute cystitis that the flat epithelial cells with pus corpuscles were found. In chronic cystitis the flat epithelia were absent, and black pigment was found in the pus corpuscles. Again, if the pus corpuscles with epithelia from the kidney were found in the urine, it was evidence that a more or less dangerous suppurative process existed in the kidney. If hematoidine crystals were found in the urine it was evidence of a chronic morbid process, and if associated with pus corpuscles, of a chronic suppurative process.

THE DIAGNOSIS OF LUNG DISEASE.

The chief elements met in the sputa were mucous corpuscles and pus corpuscles. The question arose, What was the difference between a mucous corpuscle and a pus corpuscle? The answer was, that the mucous corpuscles were nothing but the protoplasm of the epithelial cells themselves, and were pale and *finely* granular bodies, while the pus corpuscles were *coarsely* granular bodies.

Dr. Heitzman believed that Cohnheim was mistaken when he stated that all pus corpuscles were migrated white blood corpuscles, for the formation of plus corpuscles could be traced to the firmer tissue itself. No one would deny that a certain number of pus corpuscles were migrated white blood corpuscles, but he did not believe that all of them were produced in that manner.

The lungs normally contained a cerain amount of pigment, therefore when pus-cells were found in the sputa contained pigment granules, it was an indication as to where the pus-cells came from. The presence of elastic fibers in the sputa indicated that there was positive destruction of lung tissue. He might not be able to say what had destroyed the lung tissue, but it could be said with great certainty, if with the fibers there were found certain protoplasmic bodies, that the destruction was due to the formation of a cavity.

Reference was then made to cases in which he had been able to make a diagnosis of a serous lung disease by examination of sputa before any evidence of such disease was given by physical signs.

THE DIAGNOSIS OF TUMORS.

There was no doubt the science of microscopy had advanced so far that we were able to tell positively what kind of a tumor we had to deal with. If a few points were kept mind we could easily determine whether we had to deal with a benign or with a malignant growth. The key to diagnosis was chiefly in the basis substance, whether fibrous, myxomatous, cartilaginous, or bony. The more of the basis substance present the more certain was the tumor benign; the less the basis substance the surer was the tumor malignant. Malignant tumors were of two kinds: 1. The kind belonging altogether to the connective tissue series, and termed sarcoma; and 2, the kind belonging to epithelial formations, and termed cancer. Further, if we saw slight basis substance without epithelial elements, and without alveolar arrangement, we could say that it was a sarcoma; while if we saw epithelia arranged in alveoli, without respect to size or shape, we made the diagnosis of cancer. In the latter case, also, a great deal could always be determined by examination of the connective tissue outside of the epithelium. The more abundant the connective tissue about the epithelial nests the less malignant was the cancer, while the more numerous the epithelia were, and the less abundant the connective tissue, the more certain we were that the cancer was a malignant one.

Again, there were present in the connective tissue itself a varying number of peculiar shining globular elements which, by recent examiners, had been considered as the product of a kind of inflammatory reaction from irritation of the epithelium. The more crowded those corpuscles were, the worse the cancerous tumor. If we wished to know whether or not the tumor had been thoroughly extirpated, it should be examined about its boundary. If the connective tissue was found provided with only a small number of inflammatory elements so-called, we might be sure that the cancer would return within a very short period of time.

COLORLESS BLOOD CORPUSCLES AND PROTOPLASM.

Under this head the lecturer referred to the discovery which he made five years ago, regarding the anatomy of protoplasm, and its presentation before the Society three and two years ago. (See *Medical Record*, Vol. XI., p. 322, and Vol. XII., p. 94.) He then claimed that protoplasm of any description invariably contained a network of threads and granules, that held in its meshes a fluid, and that the threads and the granules constituted the living matter. To-day, more than a dozen of the best microscopists abroad had accepted his discovery, although it had not been recognized in this country. That the recticulum was present, no one had a right to doubt; but that the threads and granules were living matter had as yet not been acknowledged. That it was living matter he had to prove, which he felt himself able to do by the recognition of two well-established facts.

The first property attributed to living matter was *motion*; and the second, *capacity for reproduction of its kind.* As evidence that this matter was living, was the motion which could be seen in it, and it was enough to establish its productive power to know that the granules increase in size and number during the inflammatory process. Transferring the idea to the study of the human body, Dr. Heitzman reasoned that these corpuscles should contain more living matter in the healthy and strong individual than in the broken-down and scrofulous person. Acting upon that supposition, he began, three years ago, to study pus-corpuscles in the urine in connection with clinical histories, and reached the conclusion that the constitution of the person from whom they came could be determined in that manner. Having settled the question that pus-corpuscles from a healthy person contained an abundance of living matter, an abundance of granules, while those from a debilitated person contain granules which were very small and a very marked net-work, it occurred to him that perhaps by examination of the colorless blood-corpuscles he would be able to tell directly what the constitution of the individual was from whom the blood was taken. So it was, and he had found that when the colorless blood-corpuscles, examined with moderately high power (800 to 1,000 diameters), were found to contain an abundance of granules, it was evidence of a first-class constitution; on the other hand, if only fine granules were seen, and the entire body of the corpuscle was pale, it was evidence of a poor constitution. He had very often noticed that the number of white blood-corpuscles was considerably increased after a single sleepless night, so much so, that it might be determined whether a man had been kept from his rest or not, by examination of his blood. It could also be determined whether a man was to have acute diseases, or whether he was to suffer from the slow processes of disease incident to a strumous diathesis.

These facts being determined, they might exert a very great influence upon the entire question of life assurance. Not only that, but they might exert an important influence upon the question of marriage. To know something of the general condition of our patient was very important. If that could be determined by an examination of a drop of his blood, we had learned much with regard to his future welfare, and a new field was opened worthy of the investigation and study of every physician.—*Medical Record*, January, 1879.

Fermentation and its Bearings on the Phenomena of Disease, by John Tyndall, LL. D., F. R. S., Science Monthly, December, 1876.

Some Notes by S. P. Cutler, M. D., Memphis, Tenn.

This profound and exhaustive paper may be justly considered as one of the ablest ever published on that subject. Still there are points in it that do not appear to be fully established or demonstrated, though given as dictum. The author may be right in putting all contagious diseases under the head of fermentations, though as to the *causa equivoca*, he fails to bring forward unconditional proof as to the germs themselves and their origin. The action *of ozone* is not taken into account as a factor in the process discussed, while Leibig and other chemists attribute everything to chemical action or change. Both extremes are unsatisfactory. As to the living organisms, found in ferments, as seen under the miscroscope, being formed from true germs, the proofs have not been fully given, only circumstantially. We discover the yeast plant cell reproducing its kind until the supply material is used up; when the process ceases, still further changes may take place after this tarula growth ceases to grow.

The writer speaks of true and false germs being seen by the brewer, which spoils his beer. It appears from the writer's idea, based largely on Pasteur's refined experiments, that ferment germs, both true and false, are nearly always present in our atmosphere. Pasteur has found out how to destroy the mischief-working germs. Pasteur defines fermentation as life without air (p. 136). Says Pasteur, "It is not all yeast cells that can live without air and produce fermentation." Same page says, "They must be young cells that have caught their vegetation vigor from contact with free air." Many substances, as grapes and other fruits, contain their own lueon, though not always in the exact quantity to produce best results, the brewer having to supply from his experience. As to fermentation without air, as set forth by Pasteur, I can not so understand the subject, as air, in certain limited quantities, is absolutely essential to all fermentations. It is the proper supply of air from which best results are obtained. Atmospheric conditions and solar influences may have something to do in the process. Extremes of temperature, unfavorable to success, can not depend on the destruction of imaginary germs.

FERMENTATION.

The *pencilium glaucum*, found on old shoes in damp places, as mold, Mr. Tyndall says, comes from germs in the atmosphere, and not from the shoe itself, is not begetting true plants according to this writer. This is admitted, but the seeds of it no one has seen or identified, leaving it an open question at present.

There must be certain favorable conditions as heat and moisture for these moulds to form and grow. Pasteur says, "The fermentation is proven to be the invariable correlative of life, being produced by organisms foreign to the fermentable substances (p. 139). Same page, speaking of ripening of fruits, Birard, the French chemist, says, "All ripening fruits absorb oxygen, and give off equal quantities of carbonic acid gas," and regards it a species of fermentation, which is no doubt correct.

This ripening process is a step downward toward the inorganic, similar to organic decomposition by ordinary fermentation, or oxidation of starch elements. When the ripening process goes a little farther acetic acid is formed. On page 138, alluding to Mr. Pasteur's experiments with grapes and plums, he says, "Pasteur put twenty-four plums in a jar of carbonic acid, and in eight days they had not changed only in weight, they had lost some of their sugar, but were firm and hard, others uncovered became soft, watery, and very sweet. He says, "It is by virtue of the living cell that change in the jar took place. Again, "Grapes mashed so as to destroy the cell structure, the grapes will undergo no change." How is it then accounted for, that grape juice when pressed out ferments into wine? Pasteur regards the process as a vital one and not chemical. Same page he says, "Expose boiled milk to the air, it will cool and then turn sour, separating, like blood, into clot and serum;" then speaking of the eel like vibrio, he says, "It is these organisms which by decomposing the milk render it sour." In answer to this it is safe to say, that no organisms appear until the souring process has commenced, hence it is the effect not the cause of fermentation. These vibrio may often be seen in other souring substances undergoing fermentation. He says, "Keep the vibrio and germs out of your milk and it will never turn sour," alleging that "Milk may become putrid instead of sour. I had a specimen of a very putrid buttermilk which contained no organism of any kind, the globules of butter being as numerous and as perfect as in perfectly sweet milk. These are the organisms which receive the common name of bacteria, and are the agents of all purtrefaction." In this he certainly is in error. On page 341, he says, "Heat kills the bacteria, and cold numbs them." Stating, "When his housekeeper wishes to keep pheasants from spoiling, she partially cooks them and kills the infant bacteria, thus postpones the evil day." Saying, "boiling her milk brings about the result." Same page he speaks of the benumbing effects of cold on ants when they are placed on snow; he compares the effects of cold on ants to the effect of cold on bacteria, and says, "It is the whole philosophy of the preservation of meat by cold." It is a well known that all organic chemical changes cease at the freezing point, or nearly so. On page 143 he says, "Beer is assailable by all the organisms here referred to, some produce acetic, some butyric acid, while yeast is open to attack from the bacteria of putrefaction. These ferments are of disease, and the brewer has to keep them out or his beer will be spoiled." Saying, "The brewer must paralyze if he can not annihilate them," and speaks of high and low fermentation. Alluding to an accident that happened to himself (p. 145), While bathing in an Alpine stream he slipped up on a block of granite and imprinting the crystals into his naked shin, he dipped a clean pocket handkerchief into the stream and rapped it around the wound, walked home and remained in bed four or five days. There was no pain, and he thought he could quit his room with impunity. The wound was clean, no pus, no inflammation. He says, "Placing over it a piece of goldbeater's skin, I walked about all day. Toward evening itching and heat were felt, a large accumulation of pus followed, and I was forced to go to bed again. Water dressings and arnica liniment were applied, which latter made matters worse. An abscess of the instep, five inches from the wound followed, which communicated with the original wound. Bacteria caused the whole trouble after taking off the bandage. They were the subtle workers that harrowed down my shin, dug the abscess in my instep, and produced effects that might well have proved fatal to me. Had the pus from my abscess been examined, it would have been found swimming with bacteria."

From hundreds of observations of pus, I have never seen a bacterium of any kind from fresh pus, from a sore, or ulcer, not until the pus has been some time exposed to the air.

Speaking of Prof. Lister's antiseptic system of surgery, he thinks it consists wholly in preventing bacteria from wounds. We might suggest oxygen instead. Mr. Tyndall thinks that when he removed the handkerchief from his leg he let in the bacteria which caused the after trouble.

Poultices, plasters, water dressings, oil dressings relieve pain, and cause rapid healing of sores and wounds by exclusion of air, not bacteria, as countless myriads of them could exist under these dressings, neither would these dressings themselves kill the bacteria, if any existed there. A cabbage leaf to a blister, or a poultice, relieves the pain and soreness at once by exclusion of external oxygen, thereby lessening oxidation and heat which causes pain. Under a poultice would be the most favorable nidus for hatching and breeding bacteria, if they are likely to exist there. It is rare to find any kind of organisms in any sore or wound, recent or chronic. A strip of adhesive plaster often suddenly relieves a fresh cut by excluding the air, not by excluding bacteria, as they certainly could not have had time to hatch and multiply.

From the domain of surgery the writer passes to the domain of contagious diseases and epidemics. Speaking of the leaven of ferments and diseases, he says, "Each reproduces its kind. The virus of small-pox, the smallest particle, will leaven the whole body, and from this a whole community, by rapid multiplication." On page 148, speaking of Pasteur's experiments, he says, "In Pasteur s researches, the Bacterium remains Bacterium, the Vibrio a Vibrio, the Pencilium remains a Pencilium, and the Tarula a Tarula." "In like manner sow small-pox in the human body your crop is small-pox, sow scarlatina and your crop is scarlatina."

There can be no doubt as to the correctness of the above statements, that the poison of contagious diseases acts as a true ferment. Pus of small-pox, inoculated into a well person, produces small-pox; breathing the effluvia of small-pox into the lungs produces small pox in a well individual. This can not apply to all other contagious diseases: some of them are not inoculable, as yellow fever, cholera, scarlatina, measles are instances. Pus of vaccine can not differ essentially from that of small-pox; any amount of microscopic research fails to show anything like an organism at all. These ferments or leaven of contagious diseases contain some active principle produced by the disease acting on the fluids of the human body, generating a specific germinal matter, that reproduces its kind in the healthy individual. The great question is, how do these affectious originate de novo, at the starting point of an epidemic.

On pages 149 and 150 are details of an epidemic and contagious splenic fever of cattle in Russia. Observations made by N. M. Davaine, 1850, Rayer, Pollander, Branell, Dr. Berdare, Sanderson, Hoch, Cohn. Pasteur says, "In the single district of Novogorod, in Russia, between 1869 and 1870, fifty-six thousand cases of death by splenic fever among horses, sheep, and cows are recorded; besides the animals, five hundred and twenty-eight human beings perished from it." Guinea pigs, rabbits and mice were inoculated with the blood of animals dying of this disease, and invariably took the disease and died of the same; the experiments were mostly confined to mice. The blood retains its active properties. For four weeks Dr. Sanderson kept blood dried which retained its active properties four years. Mice inoculated with this invariably died. This is a subject of great interest to investigate. This blood contained red like oganisms, which were regarded by these experimenters as the true cause of the disease; these organisms are called *bacillus anthracis*.

Now, if these organisms were the cause of the epidemic, they must escape from the blood of sick animals, float in the air, pass into the blood, there poison the blood of a well animal and develop the disease by multiplication. This view of the case is hardly tenable, but we can have no other if their conclusions are correct. On the other hand, if these organisms may be regarded as an effect of some ferment, then the cause still remains in doubt. Whether these organisms really form and exist in the blood while circulating in the body or not, does not appear from the experiments made. If they form in the circulating blood, the stage of the disease is not known when they are most numerous and effective. The most important question is the length of time the blood retains its specific properties, capable of reproducing its kind.

This may be a most important subject in relation to epidemic diseases, as yellow fever, plague, cholera, and other contagious diseases. We do not know whether or not, if persons or animals were inoculated with blood of these diseases, they would become affected, as in the experiments given.

The duration of the active properties of our recent epidemic has not been fully determined. Cases have occured by sleeping in beds or going into houses two months after the patients had died in them, perhaps longer in some instances.

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Bausch & Lomb Optical Co.—We learn by circular that this company hereafter will receive orders directly at their office at Rochester, N. Y., instead of as heretofore at New York City, and will ship from the same point.

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The attention of our miscroscopical readers is directed to the paper of Mr. John Mayll, Jr., of England, forming the first article of the Medical News.

GLEANINGS.

The Effects of Tobacco.—Dr. C. R. Drysdale writes to the *Medical Press and Circular:* My own experience of the evil effects of great tobacco smoking and chewing, is that these are among the most prevalent causes of chronic disease in the male sex. Of course, I do not mean for one moment to compare the dangers caused by the use of tobacco with those we are so familiar with at the bedside, in cases of diseases caused by alcohol. Tobacco does not cause cirrhosis of the liver, nor disease of the lungs and heart, in the same way, or with the same frequency as chronic tippling does. But there are, nevertheless, several well-marked diseases caused by the taking in of nicotine into the blood, whether through the absorbents of the mouth in smoking, or, more rapidly, in the case of chewing. First of all, the digestive organs are often greatly impaired by the use of nicotianæ tabacum. The teeth are frequently blackened, and the gums swollen in great smokers and chewers. Caries of the teeth is favored by the various acids produced by the burning of tobacco, and mingled with the saliva. Duskiness of the fauces, and relaxed sore throat are far too prevalent among smokers, as good observers have long noticed. Dyspepsia, caused by nicotine, is so common as to be hardly worth referring to. Diarrhœa, or more frequently, constipation, is induced by the use of tobacco in many instances. And I must not omit, in passing, the remark that the *male sex* who smoke are alone, with the very rarest exceptions, the subjects of epithelioma of the lip. I once saw such a case in an old Irish woman, who was a constant pipe smoker.

With regard to the nervous system, the weakness of vision produced by nicotine is a constant trouble to youthful smokers. Mr. George Critchett has remarked that among wealthy young men weak sight is very frequently indeed caused by their extravagant addiction to cigars and pipes. Tobacco amaurosis, too, is far from rare. In very young men, the use of nicotine is peculiarly inimical to intellectual improvement. Thus, M. Joly found that in the Polytechnic School at Paris the non-smoking students carried off the very great majority of the prizes for mathematics; and Dr. Kostral, physician to the State factory of tobacco, of Austria, shows how nicotine poisoning often kills the young boys of the factory, and causes abortions in the young mothers, and death of infants at the breast, through the nicotine contained in their mother's milk.

THE EUCALYPTUS.—The profession and the public are rapidly coming to acknowledge the fact that malaria is the most abundant source of diseases, and to recognize in the fabled hydra of the ancients the typification of this manifold and protean poison.

In the antiperiodics and tonics we possess remedies which enable us to arrest or to bring to a successful termination most of the malarial affections; but what the whole world needs, and what is certainly needed in this country, is some preventive of this miasm or some means for its destruction. The eucalyptus is said to possess this benign power. The Church of St. Paul's, in the suburbs of Rome, has every summer until of late been closed by order of His Holiness, because of the fatal virulence of the malaria thereabout. Groves of eucalyptus trees have now made it a healthful spot. Such is the statement current in medical and other journals at present.

In Algeria, in Corsica, in Italy, and in Cyprus millions of these trees are being planted as a protection to health, the various governments having taken the matter in hand. There are some two hundred species of eucalyptus, if our memory serves us; and according to Prince Troubetkoy, a Roman gentleman who has investigated the subject thoroughly, the eucalyptus amygdalina is the best variety of the tree. Troubetkoy states that this species contains far more essential oil in its leaves than the eucalyptus globulus. It grows equally well in damp and dry and exposed soil, and bears cold well. It successfully endures 21° Fahr. The eucalyptus could not stand the Kentucky winters, but in the Southern States it would probably do well, and in California it succeeds perfectly. The eucalyptus tree is of marvelously rapid growth, its wood is valuable for many purposes, and its leaves in a room are said to drive the mosquitoes out. The plants that we have seen emit a strong but not unpleasant camphorous odor.

The Southern State governments should investigate this subject, for malaria is the South's greatest enemy.—*Louisville Medical News.*

ANTAGONISM OF OPIUM AND BELLADONNA. (*Am. Practitioner*, Feb. 1879.)—Dr. W. B. Davis gives a carefully prepared paper on this subject, from which we extract the following:

Points of Antagonism:—1. Opium contracts, belladonna dilates the pupils. 2. Opium constipates, belladonna relaxes the bowels. 3. Opium * retards the circulation and respiration; belladonna, *in moderate doses*, accelerates them. 4. Opium dilates the veins and arterioles; belladonna, *in moderate doses*, contracts them. 5. Opium induces profound sleep and coma, with low-blood pressure; belladonna produces wakefulness and a talkative delirium, with high-blood pressure, followed by convulsions and stupor.

Points of Agreement:—1. Both drugs produce dryness of the mouth and throat. 2. Both drugs, *in large doses*, retard the circulation and respiration, and dilate the arterioles. 3. Both drugs destroy life in the same way, namely, by a direct depressing action upon the respiratory centers and upon the heart.

If the above summary is a correct presentation of the physiological action of these drugs, we can see wherein and how far their use as counter-poisons may be beneficial or injurious. Death occurs, in opium poisoning, from failure of the respiration; with a failing respiration, we have a languid circulation, a congestion of the veins and arterioles, and the blood saturated with carbonic acid. Belladonna, *in moderate doses*, will stimulate the respiration and circulation, and induce contraction of the veins and arterioles. *This is the limit of its usefulness in opium poisoning.* It simply keeps the vital machinery in motion—unless too large a quantity has been ingested—whilst nature eliminates the poison. The smallest amount which will increase the respiratory forces and stimulate the failing heart should be used. Pushed too far, or given in too large an amount, it paralyzes the nerve trunk and increases the danger.

It is needless to remark that Prof. Davis thinks the heroic doses of atropia, recommended by J. Milner Fothergill, to be extremely dangerous, and that the American authors and Harley are to be followed.

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*Kœnig, in Schmidt's Jahrbuch, says: "Because a *small dose* of the one may be counteracted by the other, it is not proven that the effects of a fatal dose will also be rendered harmless."

CAUSATION OF SEPTICÆMIA.—M. Colin, of Paris, read before the Academy of Medicine of that city a paper on the above subject, of which the following is a resume (given by the London *Medical Record*): "Putrid material, according to its quantity and degree of alterations, exerts a variable action on the animal organism. In a large dose it determines a rapid and invariably fatal poisoning, which causes no marked alteration in the blood beyond a tendency to incoagulability, and is not associated with the reproduction of proto-organisms. In cases of this kind the injected fluid fails to communicate any kind of virulent property either to the blood or to any other juice of the economy. In reduced quantity the animal fluid gives rise to an adynamic febrile condition, which varies in intensity according to the nature of the animal. If this condition proves fatal, it is so through the production of visceral lesions, and through changes in the blood. Reproduction of proto-organisms takes place, at least in those parts where the putrid agent has been deposited, and frequently throughout the whole mass of the blood. Certain putrid fluids that have not undergone much alteration, such as blood mixed with products of intestinal transudation, decomposing blood of an animal affected with charbon, peritoneal serosity removed some time after death, may alone, when injected in extremely minute quantities, determine septicæmia transmissible by inoculation, after the manner of the majority of virulent affections. Here there is always virulence of the fluid and reproduction of the proto-organisms introduced from without.

THE DIAGNOSIS OF EARLY HIP DISEASES.—Quoting a thesis of Dr. Ollivier, a writer in the Boston *Medical and Surgical Journal* says:

Mistakes in the diagnosis of hip disease are, unfortunately, not uncommon. The results of such mistakes are deplorable.

It has been said that every case of hip disease passes through a stage when it is called 'rheumatism.' It is precisely at this stage that a diagnosis should be made.

Cases are not unfrequently seen where a diagnosis of "incipient" hip disease is made, although the disease has progressed so far that suppuration of the joint is imminent; it being apparently the opinion of some that hip disease is not present until grating can be felt on manipulating the joint under the anæsthetic, or, in other words, until the disease has progressed to a dangerous extent.

The liability to error will be less if the following facts be kept in mind:

1. Serious disease at the hip joint may exist when no pain is complained of, and when no tenderness can be discovered.
2. Hip disease may be present, although the motion at the hip joint is quite free.
3. If the motion at one hip-joint is more limited than at the other, hip disease must always be suspected, and the symptom regarded as highly characteristic of hip disease.
4. At the earliest stage the limitation of motion most readily recognized is in the direction of extension.

Vibrios and Carbolic Acid.—At the meeting of the Societe de Chirurgie of Paris, on 12th February, M. Maurice Perrin read a very important memoir upon the subject of the Listerian treatment of wounds, and contended that a great wrong was done to antiseptic surgery by making it synonymous with Listerism. He questioned if Lister's was the best form of antiseptic dressing, and if the precautions which the surgeon took were not illusory. M. Perrin undertook a number of ingenious experiments to determine if the object of the carbolic acid pulverizations was attained: He placed certain fermentescible substances in vases: blood, milk, urine and a decoction of barley. These substances were placed beneath bell-jars containing different atmospheres. The air of some was taken from a hospital ward; that of others from out of doors. In a third category, lastly, pulverized carbolic acid was introduced by means of Championniere's apparatus. Well then, some days afterward these fermentescible substances were submitted to the microscope; they all contained nomads, vibrios, and bacteria dead or living, those whose air had been scrupulously carbolized equally with those which had been in contact with the nosocomial atmosphere. The carbolic spray is therefore insufficient; it is incapable of "killing on the wing" those germs whose ulterior development gives rise to the decomposition of liquids.

Elephantiasis. (Philadelphia *Medical Times*, March 1, 1879.)—Dr. C. A. Siegfried, U. S. N., writes from Yokohama, Japan, of some investigations made by Dr. Patrick

Mansen, of Amoy, China. The latter believes that elephantiasis is caused by the presence of the nematode hæmatozoa, filiariæ sanguinis hominis, first described by Dr. Joseph Leidy, of Philadelphia. Dr. Mansen states his theory about as follows:

In elephantiasis, parent filiariæ have developed in the lymphatics; by their presence, or by the irritation their embryos excite, lymphatic vessels may or may not inflame. If they do not inflame, the embryos pass freely along the lymph-vessels to the blood, and there is no elephantiasis; if they do inflame, the channels in the lymph-glands are obstructed, either by inflammatory effusions, etc., or by the embryos themselves. Lymph-dropsy happens on distal side in consequence; if obstruction is complete, so that no lymph circulates, this fluid is organized into solid-tissue elephantiasis; if there is no obstruction, but still partial circulation, there is lymph-scrotum.

He almost always finds filiariæ embryos in *chyluria*, and that chyluria and lymph disease are associated in a large majority of cases. Hence he infers that all these affections are interdependent.

Castor Oil Production in Illinois.—St. Clair County, in Illinois, is said to yield alone 300,000 gallons, and the oil derived from this region is quite equal to that produced in the Levant, in Spain, Provence, Brazil, or the West Indies. The ground is prepared as for other crops, and the beans are planted in the same manner that corn is, with the exception that only one bean is put into each hill, and at every fourth row a space is left for a wagon to pass in gathering the crop. About twenty bushels to the acre is considered a fair yield, and the harvest begins in September. Commonly used for medicine, it will answer for lamps and machinery, and is often so employed. The streets of Lima are, or were very lately, lighted with castor oil, which also lubricates most of the mills on the sugar plantations of Peru. The raising of the bean and manufacture of the oil is a growing industry, and several firms in St. Louis have made themselves rich by it.

Belleville, Ill., capital of St. Clair County, is a center of the bean product, and being but fourteen miles from St. Louis, the raw material is easily transported to that city, whence it is shipped to various places, most of the oil being consumed in the United States.—*New Remedies.*

On Opening the Abdomen to Relieve Intestinal Obstruction.—In a discussion on this subject, Mr. Teale, an eminent London surgeon, said:

I must confess to having myself a strong bearing toward the operation, on the grounds both of theory and experience. I have six times opened the abdomen in apparently hopeless cases of obstruction of the bowels, and I do not consider that in any one of them the chance of recovery was taken away by the operation. The operation is justified on two cardinal grounds:

1. That the simple opening of the peritoneal cavity, in order to search for the cause of obstruction, is not of itself a dangerous operation.

2. That there are many cases of obstruction of the bowels which must prove fatal, unless relief can be given, which can only be rightly directed by means of exploration of the abdominal cavity.

As to the harmlessness of opening the peritoneal cavity, I need hardly remind you how constantly this is done in operations for hernia.—*Medical and Surgical Reporter.*

Bromide of Potassium in Chronic Chills.—Dr. L. T. S., of South Carolina, writes as follows to the *Southern Medical Record:*

Mrs. P., aged sixty-five, has had third-day chills for three years. The morning after the chill I commenced giving bromide, fifteen grains, three times a day. She has had no more chills for the last three years.

A child of Mrs. N., five years old, has had third-day chills for three years. I gave bromide, in five-grain doses, three times a day. It has had no more chills.

The bromide is kept up for several months, three times a day for eight or ten days, and then left off for as many days.

I have been using the bromide as above for the last six or seven years, with uniform success, as a preventive. R. L. S. had chills every summer for several years. I gave the bromide, commencing in the spring. Gave it all summer and fall, at intervals, as above. He has had no chills since, it being now five or six years. I have seen no unpleasant effect from the use of bromide of potassium.

How to Make a Poultice.—Dr. Brunton, in *Brain:* The common practice in making poultices of mixing the linseed meal with hot water, and applying it directly to the skin, is quite wrong; because, if we do not wish to burn the patient, we must wait until a great portion of the heat has been lost. The proper method is to take a flannel bag the size of the poultice required, to fill this with the linseed poultice as hot as it can possibly be made, and to put between this and the skin a second piece of flannel, so that there shall be at least two thicknesses of flannel between the skin and the poultice itself. Above the poultice should be placed more flannel, or a piece of cotton wool, to prevent it from getting cold. By this method we are able to apply the linseed meal boiling hot, without burning the patient, and the heat, gradually diffusing through the flannel, affords a grateful sense of relief which can not be obtained by other means. There are few ways in which such marked relief is given to abdominal pain as by the application of a poultice in this manner.—*Ibid.*

Advantages of a Single Puncture of Each Arm in the Vaccination of Very Small Children.—Dr. Hughes (*Gazette Obstetricale*, from *Nice Medicale*) says: 1. Contrary to the general opinion, it must not be believed that, variola being rare in the first two or three months of life, it is not necessary to vaccinate at this age. He has observed several cases of small-pox in children less than three months old which he had refused to vaccinate. He therefore vaccinates any child now at the slightest wish of the parents. But, having formerly made three punctures in each arm, and seen several accidents due to extent or intensity of inflammation, he was led to inquire if a single puncture would not be sufficient. 2. It is entirely sufficient to make but a single puncture in each arm in very young children. In eleven children revaccinated at later periods, and even with three punctures, not one was susceptible to the influence of the virus.—*Obstetric Gazette.*

Silphium Cyrenaicum.—The *Allgem. Wiener Med. Zeitung*, No. 53, 1878, contains an article on a drug which seems to have been known many centuries ago, but which has only been analyzed and officially acknowledged in our times. It is the silphium Cyrenaicum, prepared by Messrs. Derode and Deffes, chemists in Paris, which is said to be very efficient in phthisis, catarrh of the lungs, cough, etc.

It does not suddenly put a stop to these affections; but it diminishes the irritation in the throat which causes the cough; it reduces the action of the heart and lowers the temperature, thereby enabling both the patient and the physician to dispense with narcotics, which after a certain time lose their power, or, what is still worse, cause permanent injury to the nervous system and the brain. It is given in different forms, as pills, tincture, syrup, and glycerine.

FORMULA FOR SALICYLIC ACID.

℞. Acid Salicylici, . .	ʒi.
Spts. Aetheris Nitrici, . .	ʒvj.
Sodæ Bicarbonatis, . .	gr. lxx.
Spririt Lavandulæ Co., .	ʒii.
Aquæ, ...	℥ii.
Syrupi Aurantii Corticis ad.,	℥vj. M.

Sig. A teaspoonful every three or four hours. In preparing, mix the acid and the spirits of ether in a bottle, and then add the soda, and afterward the water, gradually, till effervescence ceases; and then the lavender and syrup.

THE PROLONGED DAILY USE OF SALICYLIC ACID.—In one of the German pharmaceutical journals Professor Kolbe, of Leipzig, relates his own experience of the moderate use of salicylic acid for a long time. He was dyspeptic, and often troubled with hepatic eruptions in and about the mouth, and as a remedy he tried salicylic acid, not in the form of a dose, but taking it in his water, wine and beer, greatly diluted, but reaching daily an average of fifteen grains. He reports, after nine months, that his health is excellent, his dyspeptic troubles vanished, and no ill effects whatever noticeable. Careful examinations of the urine showed no trace of albumen, alleged by some to follow prolonged use of the acid.

ANTISPASMODIC POTION.—(HERMAUT.)

Essence of Peppermint,	15 minimes.
Alcohol (at 80°), . .	ʒjss.
Wine of Opium, . .	ʒijss.
Sulphuric Ether, . .	ʒvijss.
Mix.	

Ten drops added to a tablespoonful of sweetened water will give extemporaneously a ʒss. antispasmodic draught, so that, in the country, the physician can always have at hand an antispasmodic ready prepared, and condensed into a small compass.—*L'Union.*

Epilepsy.—Dr. Mordough, of Flatbush, highly recommends the hypodermic use of veratrum viride in recurring epileptic attacks; that is, in a series of attacks with an interval of only a few moments. His formula is: Morph. sulph., gr. ijss; tinct. verat. virid., aquæ, aa℥ss. M. S. Use twenty minims of this solution, representing ten minims of the U. S. P. tinct., and about a tenth of a grain of morphia.—*Phila. Drug. and Chem.*

For Eczema Squamosum.—Dr. Bulkley uses phosphoric acid externally and internally.

℞. Acid phosphor dil, glycerine, syrup, equal parts, to be applied three times a day, and twenty drops to be taken internally three times a day.

Book Notices.

The National Dispensatory: Containing the Natural History, Chemistry, Pharmacy, Actions and the Uses of Medicines, including those recognized in the Pharmacopœias of the United States and Great Britain. By Alfred Stille, M. D., LL. D., Professor in the University of Pennsylvania, etc., and John M. Maisch, Ph. D., Professor in the Philadelphia College of Pharmacy. 8vo. Pp. 1,628. 1879. Philadelphia: Henry C. Lea: Cincinnati: R. Clarke & Co. Price, $7.50, in leather. Cloth, $6.75.

This is a most magnificent work, with its over sixteen hundred closely printed pages and two hundred illustrations. As the Dispensatory of Wood and Bache has been the Dispensatory for many years in the past in this country, so undoubtedly this one of Stille and Maisch will be *the* Dispensatory for many years to come, unless something should happen its distinguished authors.

As should be in a Dispensatory, the alphabetical order of arrangement has been adopted throughout. In this, the non-officinal medicines have been included with the officinal—differing in this respect with the Dispensatory of W. and B., in which such medicines were placed by themselves in an index. They are, however, distinguished by an affix, showing the Pharmacopœia to which they have been admitted. The title of each article is followed by a full synonym, English, French, and German, together with Latin appellatives and popular names.

In the treatment of separate articles, detailed botanical descriptions, very properly, have generally been admitted, taking up as they do valuable space that is better appropriated to more important subjects, but plants yielding drugs have been briefly characterized as to their general aspect and habitat. The treatment which drugs undergo before they reach the hands of the pharmacist, being of importance, receives attention; for the physical appearance and chemical composition are sometimes influenced thereby. Especial care has been bestowed upon both the external and the structural characteristics of drugs, so that they may be readily identified and distinguished from those which resemble them, and, in aid of this object, a limited number of illustrations has been introduced representing their outward forms as well as their histological appearances revealed by the microscope.

But it would require several pages of the MEDICAL NEWS for us to give even briefly a description of the work. Two more competent gentlemen could not have been selected in the United States to produce a Dispensatory to succeed the eminent work of Wood and Bache, which has for so many years been *the* Dispensatory of this country, than Professors Stille and Maisch. Professor S.'s work on Materia Medica and Therapeutics has ever since its publication been a standard work on those subjects, and this fact alone is certainly a guarantee of his qualifications for the important work of producing a Dispensatory, and as regards Professor Maisch, his high standing as a chemist and pharmacist is well known.

We would probably make an important omission in our brief notice of the work, if we failed to draw attention to a feature quite novel in a Dispensatory, namely, the possession of a Therapeutical Index. By reference to it, the physician can see at a glance the remedies usually employed in the treatment of any disease. Care has been taken to make it as complete as possible. Such an index thus becomes, to some extent, a therapeutical classification of medicines, and it is believed must greatly enhance, by its suggestiveness, the working value of the book to the practitioner.

The "Index of Materia Medica" covers fifty-five triple-columned pages, and contains about 10,400 references. The "Therapeutical Index" occupies thirty-three double-columned pages, and contains about 3,750 references.

THE DISEASES OF LIVE STOCK AND THEIR MOST EFFICIENT REMEDIES: Including Horses, Cattle, Sheep and Swine. Being a popular treatise, giving in brief and plain language a description of all the usual diseases to which these animals are liable, and the most successful treatment of American, English and European veterinarians. By Lloyd V. Tellar, M. D. 8vo. Pp. 469. Price, $2.50.

The work before us is not exactly of the character of medical works we are in the habit of noticing, yet treating of diseases, though it be of the lower animals, it nevertheless comes within our purview. Brutes have diseases peculiar to themselves, and in their materia medica and therapeutics, etc., there is considerable modification, yet there is much in common between them and the human race. So much so, that the physician as well as the veterinarian feels an interest in their diseases.

The author of the present treatise is not himself a veterinary surgeon, but practicing medicine in a rural locality, and often consulted about the diseases of domestic animals, and having bought and read the best books on the subject, and having closely observed, he claims some special qualifications. Though prepared for the use of the farmer and stock-owner, he has made the work as free as possible from technicalities, but has endeavored to render it scientifically exact and a true exponent of the latest and most accurate research.

The vast majority of so-called veterinary surgeons throughout the country are very ignorant men, and many of them do not know much more about the diseases which they are called upon to treat than their patients, the horses, themselves. We have no doubt if many physicians practicing in the country would add this work to their library, (it is cheap), and study it, they would be able to increase their usefulness and at the same time make it profitable. Some men will pay a fee more readily to have their horses cured than they would to have their wives, mothers-in-laws, or children cured.

The work strikes us as well written. Published by D.G.Brinton, of the *Med. and Surg. Reporter*, Philadelphia.

Clynical Lectures on Diseases Peculiar to Women. By Lombe Atthill, M. D., University, Dublin, Master of the Rotunda Hospital, Dublin, etc., etc. Fifth Edition. Revised and Enlarged. With Illustrations. 12mo. Pp. 342. 1879. Philadelphia: Lindsay & Blakiston. Cincinnati: Peter G. Thomson.

This little work has met with very considerable success with the profession. Although small, it still affords to students and practitioners information on all "the Diseases Peculiar to Women." It does not pretend to be a complete treatise on gynæcology; for a lecturer, in giving a course of medical lectures, could scarcely be expected to go over every subject in that department of medicine and treat it at length; and this work embodies the author's lectures in their unaltered form.

We probably can not do better than to copy what the Dublin *Journal of Medicine* says in regard to the work: "We have no hesitation in reiterating our opinion that we have in these lectures a concise and valuable compendium of the present state of our knowledge of the more important and common diseases of women; and that in them the student will find a most excellent guide to the clinical study of these diseases, and the practitioner trustworthy directions for their treatment on sound and scientific principles."

As a college text-book and ready reference work for practitioners it has no superior.

A Manual for the Practice of Surgery. By Thos. Bryant, F. R. C. S., Surgeon to Guy's Hospital. With 672 Illustrations. Second American from the Third Revised and Enlarged English Edition. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. 8vo. Pp. 945. 1879.

Another edition of this manual having been called for, the author has availed himself of the opportunity to make no few alterations in the substance as well as in the arrangement of the work, and, with a view to its improvement, has recast the materials and revised the whole. He has, also, to make the work more complete, added much new matter, including chapters on diseases and injuries of the eye and ear, some remarks on dental surgery, on the diagnosis of ovarian tumors, and on deformities, together with at least one hundred wood-cuts. The consequence of its having passed through three editions in Great Britain since its first publication in 1872, and two editions in this country, he feels it has filled a want; and we ourselves are of the opinion that there is no better work on surgery extant.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, etc., etc. Fourth Edition. Thoroughly revised. With Illustrations. 8vo. Pp. 758. 1879. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, $5.50.

It is scarcely necessary for us to say the work before us is a standard work upon diseases of children, and that no work has a higher standing than it upon those affections. It has now reached its fourth edition, which certainly speaks most highly for its popularity in these days of book-making.

During these late years, as the author states, the changes which have been made in the therapeutics of children's diseases are numerous. Depressing medicines have, for the most part, been laid aside, and those substituted which fulfill the indications, while they sustain or do not reduce the strength. New and valuable medicines have been added to our pharmacopœia, as the bromides and hydrate of chloral. Certain old remedies, as quinine and digitalis, are employed for new purposes, superseding other objectionable remedies. Moreover, the need is felt more than ever of making prescriptions more agreeable to little patients. Aiding in this object of rendering medicines palatable for children, pharmaceutical chemistry has furnished many preparations, which are more readily administered than the cruder and more bulky substances formerly employed. In view of these changes in the materia medica, the author has found it necessary to rewrite a large proportion of the prescriptions contained in the text, nearly all of which have been sufficiently tested either in his own private practice, or in the institutions with which he has a connection.

In consequence of its thorough revision, the work has been made of more value than ever, and may be regarded as fully abreast of the times. We cordially commend it to students and physicians. There is no better work in the language on diseases of children.

NAVAL HYGIENE: Human Health and the Means of Preventing Disease. With Illustrative Incidents, Principally Derived from Naval Experience. By John Wilson, M. D., Medical Director U. S. Navy. Second Edition. With Colored Lithographs, etc. 8vo. Pp. 274. 1879. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co.

The present work has been prepared for the benefit of naval physicians, naval officers, as captains of ships, who go on long voyages, and others who are so situated that their conduct may have great influence in the preservation of human health.

Although from its title few would be disposed to regard the work as only suitable to those "who go down on ships on deep waters," yet, upon glancing over it, it will be found to be quite a complete treatise upon hygiene—discussing the various laws of health, treating of cleanliness, ventilation, preservation of food, clothing, epidemics, alcoholic and vinous drinks, purifying and preserving water, quarantine, etc., etc., besides giving much interesting information in regard to zoology and botany. In fact, that there is but very little in the work that is not as interesting to the landsman as to the seaman.

We commend the reading of the work to our friends.

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EDITORIAL.

HIGHER MEDICAL EDUCATION.—The St. Louis *Clinical Record*, Dr. Wm. B. Hazard, editor, gives notice that the *Record* will advertise no medical college except those requiring a strict *preliminary examination* of matriculants and attendance upon *three full annual* courses of lectures, of not less than four months each.

PROF. R. C. S. REED, M. D.—This gentleman has resigned his position as Professor of Materia Medica and Therapeutics in the *Cincinnati College of Medicine and Surgery*, in consequence of his belief in the incompetence of the present Board of Trustees to bring about such reforms as are necessary for the college to maintain a respectable standard among the other medical colleges.

THE man who gives as his excuse for not subscribing to a new journal, or for dropping one or more that he is already taking, "I haven't time to read so many," is, in nine cases out of ten, a poor tool. The busiest, most successful men in the practice of medicine are those who read most and write most; it is only the dawdler and the drone who "can't find time to read."—*Maryland Medical Journal.*

As before stated, medical colleges in America, are, broadly speaking, simply business ventures. This is amply demonstrable by a glance at the men who compose the so-called professional staff of almost any one of them. In more than one of these "fountains of knowledge" may be found men incapable of writing the report of an ordinary case in practice, men whose ordinary conversation and lectures(?) are full of grammatical errors, of puerilities and of the gravest scientific errors. These "blind leaders of the blind" can not but lead into error. The quality of the young graduates is as good as could be expected from such teachers.—*St. Louis Clinical Record.*

OHIO STATE MEDICAL SOCIETY.

Office of J. F. BALDWIN, M. D., Sec'y., 113 East Long St.,
COLUMBUS, O., *March* 17, 1879.

Editor of *Cincinnati Medical News*:

Dear Sir:

The thirty-fourth annual meeting of the Ohio State Medical Society takes place in Dayton, commencing June 3d., at two o'clock P. M.

Dayton is a beautiful city, has ample hotel accommodations and railroad facilities, and is reasonably central in location. These considerations, added to the usually interesting character of our meetings, ought to call out a large attendance, and doubtless will do so.

Persons intending to present volunteer papers, will please forward the titles *at once*, that they may be inserted in the forth-coming circular.

Very respectfully,
J. F. BALDWIN, Sec'y.

PHYSICIAN'S LIBRARY FOR SALE.—The widow of a physician is very desirous of disposing of a number that she has remaining of his medical works. She will dispose of them at a very low rate. In fact, will accept almost anything offered. Among them are the complete works of the distinguished John Hunter, 5 volumes. Then, there are Dunglison's Medical Dictionary, 1848; Colles' Lectures on Surgery, 1845; Audral Medical Clinic, 3 volumes; Coxe's Epitome of Hippocrates and Galen; Fordyce on Fevers, 1846; Ramsbotham's Obstetrics, 1851; Carpenter's Physiology, 1853; Colembat D'Isere on Females, 1850; Practical Pharmacy, 1849; Meigs on Women, 1854; Churchill on Puerperal Fever, 1850; Watson's Practice, 1854; Walton's Ophthalmic Surgery, 1853; Kane's Chemistry, 1845; Royle's Materia Medica, 1847; Eberle and Mitchell on Children, 1850; Pilcher on the Ear, 1843; Bichat's Works; Williams and Clymer on the Respiratory Organs, 1845; Headland on Action of Medicines, 1863; Conolly on Insanity; Surgeons and Hospitals of Paris.

Information can be had by addressing the MEDICAL NEWS.

AN ODIOUS LAW REPEALED.—An ordinance was passed by the City Council of St. Louis, in 1876, taxing practicing physicians and dentists $25 a year. In May, 1877, the physicians collected money to test the constitutionality of the law. A Dr. Wm. Johnston allowed himself to be prosecuted. Judgment was rendered *pro forma* against him in the first court; appealed to the second court, judgment was rendered in his favor, and the case rested. About the same time the lawyers went through a similar experience, the Court of Appeals deciding in their favor. The Supreme Court, however, reversed the decision. The collector then proceeded to demand $50 for the taxes of 1877 and 1878.

Still plucky, the physicians and dentists (nothing is said about the lawyers) proceeded to memorialize the State Legislature to remove the power of the City Council to tax doctors, dentists, lawyers, and ministers. As a result, the Legislature has just passed an act as desired.

In another matter the city physicians are at opposites with the municipal authorities. There is an ordinance taxing vehicles of all kinds $3 a year. A few doctors paid, but the large majority have neglected to do so.

We cull this information from a long article in the St. Louis *Courier of Medicine*.

Pre-Christian Dispensaries and Hospitals.—The current (October) number of the *Westminster Review* contains a most interesting and learned article on the above subject, which, we are informed, is from the pen of a clergyman. The writer points out that many authors—including Canon Farrar—have committed the error of contending that hospitals are purely Christian establishments, and that before the dawn of Christianity they were unknown. How entirely opposite this assertion is to the real facts of the case is proved by numerous references to Greek, Roman, and Oriental writers. It is not known for a certainty that the Egyptians had any institutions analogous to our hospitals, but it is a well-established fact that medicine flourished in Egypt, that there were practitioners who devoted themselves to specialties, such as oculists and dentists, and that there were public medical officers whose duty it was to look after the poor. In Greece, also, at the time of Plato, there were physicians in the chief cities who devoted themselves to the public service, and received fixed salaries. It was in India, and in the city of Patria probably, that the first hospitals, properly so called, were established. This occurred in the reign of the pious Buddhist monarch Asoka, who flourished some three centuries before the Christian era. Asoka established hospitals both for men and beasts, and the accounts which have come to us of these establishments point to their being, in all respects, similar to our own.

There is little, if any, trustworthy evidence of hospitals among the Jews or the Romans until the fourth century of the Christian era, when Fabiola, a wealthy Roman lady, built a large hospital outside the city of Rome, and St. Basil established an asylum for the sick in the city of Cæsarea. There can be no doubt that the sick were better cared for after than before the Christian era, but Christians have clearly no right to be considered as the originators of hospitals.

Prof. Roberts Bartholow.—This gentleman, we understand, has been elected Professor in Jefferson Medical College, Philadelphia, the second oldest medical college in the United States. We think that Jefferson College, notwithstanding its very high position among medical schools in the United States, will have added very much to its strength by selecting Prof. Bartholow to fill one of its chairs. There is no more brilliant man at this time in the medical profession in this country than Prof. Bartholow, many invidious individuals to the contrary notwithstanding.

A present medical school of Cincinnati, some years ago, was founded on the principle, that a western medical college should have its chairs filled with western doctors. Its announcements, proclaiming the fact, were scattered broadcast throughout the whole western country. But science knows no east, west, north, or south. A college that studies its own interests and those of its patrons, will obtain the best talent wherever it may be found; and old Jefferson more than once, by its calling of western and southern men to fill its chairs, has shown itself to be one of this kind. The venerable and distinguished Prof. Gross, who for many many has held the chair of Surgery in Jefferson College, was previously Professor in Cincinnati, Lexington, and Louisville. Prof. Austin Flint, Sr., previous to his connection with Bellevue Hospital Medical College, held chairs in various western schools. He was at one time Professor in a Louisville school.

It will thus be perceived that the east not unfrequently makes demand upon the west for superior talent; and does not claim merits in that their instructors are chosen within a limited area of country. In the face of this, that a western medical school should boast that all their Professors are western or Cincinnati men, and ask for patronage in consequence, is not creditable to it.

Prof. Bartholow, we understand, leaves Cincinnati for his new field in September. Our best wishes attend him. We have no doubt, if his life be spared, he will make a greater name for himself than ever. It is a loss to the profession of Cincinnati to lose him, but its loss no doubt will be his gain; for as steel sharpeneth steel, we have no doubt coming in contact with more distinguished and brilliant men will advance him.

Alum in our Bread.—There are probably more than five hundred kinds of baking powder manufactured in this country, and, while some of them are sold from the Atlantic to the Pacific, the majority have only a local sale near their respective places of manufacture. Through Dr. Henry A. Mott, Jr., the well-known chemist, one of the most competent, trustworthy, and careful experts of this country, the following analyses were obtained, showing the presence of alum in large quantities in many of the baking powders having a wide sale. Dr. Mott has kindly furnished not only the results of his own analysis, but also those of several chemists of high professional standing, including Professor Henry Morton, President of Stevens Institute of Technology; Professor R. W. Schedler; Dr. Stillwell, of Walz & Stillwell, analytical chemists, this city.

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(Dooley & Brother, New York.)
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(Smith, Hanway & Co., Baltimore, Md.)
"CHARM,"........................Contains Alum.
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ANDREWS "REGAL,"........................Contains Alum.
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PHOSPHOROLE.

PHOSPHORUS and COD-LIVER OIL

have now an established position throughout the civilized world as important therapeutical agents. A *perfect combination* of the two has long been a desideratum, since they are both of value in the same disorders, while the cases in which one is demanded and the other contra-indicated are exceedingly rare.

The combination in PHOSPHOROLE has the twofold advantage of furnishing *the best possible form* for the administration of *phosphorus*, and *a more effective form* for the administration of *cod-liver oil.*

With regard to the former, it has been decided by the highest chemical and medical authorities that *phosphorus* should be administered *in a free state*, and in a vehicle which ensures its *perfect diffusion*, its *absolute unalterability*, and, as far as possible, its *prompt assimilation* without the gastric irritation to which the ordinary methods of exhibiting the agent give rise. It is well known that pills, emulsions, solutions in ether, chloroform, vegetable oils and resin, etc., have all failed to fulfill one or more of these conditions. Even an ordinary solution of phosphorus in cod-liver oil would not answer the purpose in all respects. We claim, however, that PHOSPHOROLE completely satisfies all the conditions. From the method of preparing it, in an atmosphere of dry carbonic acid, the phosphorus is *entirely dissolved without oxidation*, and by our mode of manipulation *a positive uniformity of strength* is ensured. It is then promptly bottled and sealed, and its *stability and permanence* thus secured. The exact amount of phosphorus in each dose is known, its efficiency is ensured, and the irritant effects upon the stomach are reduced to a minimum by the blandness of the oil. As a means then of administering *phosphorus* in the many cases in which it is indicated as a *nervous tonic and stimulant*, it is claimed that PHOSPHOROLE is the best attainable in the present state of our knowledge.

The value of *cod-liver oil* in phthisis is so familiar to the physician that it is needless to dwell upon it. But the value of *phosphorus* is also universally recognized in this disease, especially when complicated with nervous derangements. The *combination* of the two therefore furnishes a more effective form for the administration of cod-liver oil in the great majority of cases in which that remedy is indicated, and one which will at once commend itself to the profession.

A dose of two teaspoonfuls of PHOSPHOROLE contains $\frac{1}{100}$ of a grain of phosphorus. This dose, when given after a meal, is effective, and not very liable to interfere with digestion. *Phosphorus is cumulative in its action, and should be administered with watchful care.* About $\frac{1}{12}$ grain is considered the largest safe dose, and we rarely need go higher than $\frac{1}{20}$ or $\frac{1}{30}$ of a grain. At the very first appearance of the smallest gastric derangement, the exhibition of phosphorus should be stopped.

PHOSPHOROLE is handsomely put up in pint bottles only, and may be obtained at all first-class druggists throughout the United States.

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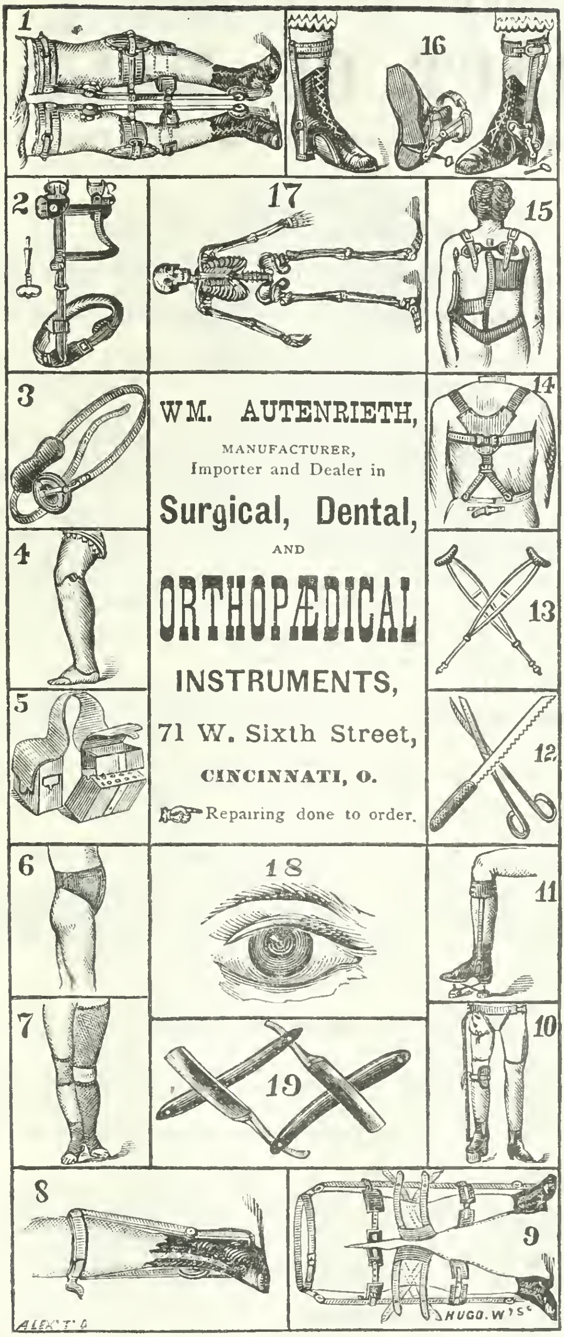

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Attention is invited to the following Analysis of this Extract, as given by S. H. Douglas, Prof. of Chemistry, University of Michigan, Ann Arbor.

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I inclose herewith my analysis of your EXTRACT OF MALT: Malt Sugar (Glucose), 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter (Diastase), 2.466; Ash (Phosphates), 1.712; Alkalies, .377; Water, 25.7. Total, 99 958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœia, as given by Hagar, that has been so generally received by the profession, I find it to substantially agree with that article.

Yours truly, SILAS H. DOWGLAS,
Professor of Analytical and Applied Chemistry.

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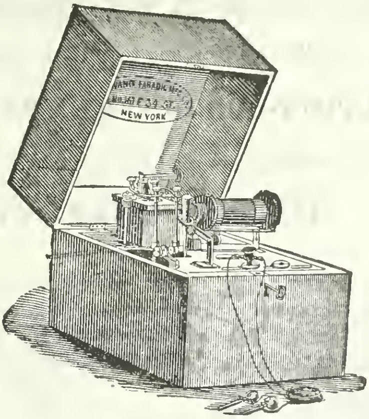

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MALTINE.

(*EXTRACT OF MALTED BARLEY, WHEAT & OATS.*)

THIS PREPARATION
Contains from three to five times the
Medicinal and Nutritive Elements found in
Extract of Malt.

MALTINE is a highly concentrated extract of malted Barley, Wheat and Oats, containing, undiminished and unimpaired, all the medicinal and nutritious principles found in these cereals. By the most carefully conducted scientific process, we are enabled to offer to the medical profession a perfect article, possessing from three to five times the therapeutic and nutritive merit of any foreign or domestic Extract of Malt.

In support of our claims we invite the attention of the profession to the following points, viz:

FIRST: In the manufacture of MALTINE the evaporation necessary to reduce it to its great density is conducted in vacuo, at a temperature ranging from 100° to 120° Fahr.; while most manufacturers of Extract of Malt resort to "open pan" or low pressure steam boiling, by neither of which processes can the extract be so produced as to preserve the Diastase, Phosphates, and Albuminoids on which its remedial value so greatly depends, and the product is either of a dark color or of low specific gravity, possessing little virtue aside from the saccharine matter which it contains.*

SECOND: Carbon, Hydrogen, Nitrogen, Phosphorus, Sulphur, Iron, Magnesium and Potassium are essential elements in the food of man, and it is only in MALTINE, containing the combined properties of malted Barley, Wheat, and Oats, that all these principles can be found in the proper proportions; Extract of Malt made from Barley alone is wanting in some of the most important of these elements.

THIRD: Gluten is the most nutritious principle found in the cereals, and is the only vegetable substance which will alone support life for any great length of time. It is composed of three distinct nitrogenous principles, together with fatty and inorganic matters, and is analogous to animal fibrin. MALTINE contains twenty times the quantity of Gluten found in any Extract of Malt.

FOURTH: Liebig says, "Wheat and Oats stand first among our list of cereals in combining all the elements in proportions necessary to support animal life. They are especially rich in muscular and fat producing elements." The only reason we use malted Barley in the manufacture of MALTINE is that it contains larger productions of mineral matters (bone producers) and Diastase. It is deficient in all other essential elements.

We believe that any practitioner will readily recognize the superiority of MALTINE, and would request a trial and comparison of merits with any article offered for similar uses.

---

* As a sure test for Diastase, and the Albuminoids, a small quantity should be put in a test tube or small vial, largely diluted with water, and heated to the boiling point, when the Albumen, if present, will coagulate, and appear in little flocculent particles throughout the liquid. If the extract remains clear, it is proof that it has already been coagulated by excessive heat, and removed by filtration during the process of manufacturing. Any heat which will coagulate Albumen will inevitably destroy the digestive power of Diastase.

(OVER.)

The Nitrogenous constituents of MALTINE have a composition identical with that of the chief constituents of the Blood, and therefore contain nearly every element requisite for the reproduction of the human body.

MALTINE AND ITS COMPOUNDS

Can undoubtedly be used with greater success than any other remedy now known, in cases of general and nervous Debility, Indigestion, imperfect Nutrition and deficient Lactation; Pulmonary affections, such as Phthisis, Coughs, Colds, Hoarseness, Irritation of the Mucous Membranes and difficult expectoration; Cholera Infantum and wasting diseases of children and adults; Convalescence from Fevers, and whenever it is necessary to increase the vital forces and build up the system.

We manufacture the following preparations, the formulas and doses of which are given in our dose books and on the label attached to each bottle:

MALTINE with Hops.

MALTINE, Ferrated:
This combination is specially indicated in Anæmia and Chlorosis, and in all cases of defective nutrition, where Iron is deficient in the system.

MALTINE with Phosphates Iron and Quinia:
A powerful general and nutritive tonic.

MALTINE with Phosphates Iron, Quinia and Strychnia:
A powerful nutritive, general and nervous tonic.

MALTINE with Hypophosphites:
This preparation is specially indicated in Phthisis, Rickets, and deficient Ossification.

MALTINE with Pepsin and Pancreatine:
One of the most efficient combinations in Dyspepsia, Cholera Infantum and all diseases resulting from imperfect nutrition. It contains three of the all-important digestive agents, Diastase being one of the constituents of the MALTINE. We believe there are few cases of Dyspepsia which will not readily yield to the medicinal properties of the above combination, while the system is invigorated by its nutritive qualities.

MALTINE with Beef and Iron:
One of the most valuable combinations in cases of general Debility, when there is deficient nutrition and a deficiency of Iron in the system.

MALTINE with Cod Liver Oil:
The most perfect emulsion, and most agreeable and effective mode of administering this nauseous but valuable Oil yet discovered.

MALTINE with Cod Liver Oil and Phosphorus:
In this combination the Phosphorus has no irritant effect upon the stomach.

MALTINE with Cod Liver Oil and Iodide of Iron:
This is prepared with the tasteless Iodide of Iron, which undergoes no chemical change from contact with the Oil, and does not blacken the teeth.

MALTINE with Alteratives:
In this preparation MALTINE is combined with the most valuable Alteratives known, such as Iodides, Bromides, and Chlorides, and will fully meet the requirements of the practitioners in Syphilis, Scrofula, and all depraved conditions of the blood. Each fluid ounce contains: Chloride Calcium, 10 grains; Chloride Magnesium, 10 grains; Bromide Sodium, 5 grains; Iodide Potassium, 1 grain; Iodide Iron, ¼ grain. Dose: One teaspoonful to one tablespoonful.

We also manufacture a perfectly prepared Extract of Malt from Barley only.

MALTINE preparations are sold at the same prices as Extract of Malt and its combinations, and are put up in amber bottles holding sixteen fluid ounces; each bottle inclosed in a folding paper box.

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WITH
HYPOPHOSPHITES OF LIME AND SODA
PERFECT, PERMANENT, PALATABLE.

We respectfully ask the Medical Profession to give the above preparation a trial, knowing they will find it just the thing long desired, and obtain splendid results in the wasting diseases indicated by mal-nutrition and assimilation. The *perfect* and *permanent* union of the Cod Liver Oil with the Hypophosphites, and the thorough manner in which the nauseous taste is disguised, renders it so palatable that the most delicate stomach can retain it. The notable advantage it possesses over all other preparations, is its permanency as an emulsion, remaining for an almost unlimited time without the slightest separation or change, which enables the Physician always to prescribe it in its proper proportions. This oil is prepared expressly for us and guaranteed strictly pure. We will gladly furnish, express paid, a 4 oz. sample to any Physician in the country who may not have been supplied.

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1-15 inch, Im	160°	45	”
1-18 inch, D and I	160°	55	”

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2-3 inch	30°	10
1-2 inch	45°	10
1-4 inch	100°	14
1-8 inch	112°	20
1-16 inch	120°	30

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THE COLLEGIATE YEAR in this Institution embraces a Preliminary Autumnal Term, the Regular Winter Session, and a Spring Session.

THE PRELIMINARY AUTUMNAL TERM for 1878-'79 will open on Wednesday, September 18, 1878, and continue until the opening of the Regular Session. During this term instruction, consisting of didactic lectures upon special subjects, and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students expecting to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required *During the Preliminary Term clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will begin on Wednesday, October 2, 1878, and end about the first of March, 1879.

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FEES FOR THE REGULAR SESSION.

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Graduation Fee	30 00

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Matriculation (Ticket good for the following winter)	$ 5 00
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Dissection (Ticket for the following winter)	10 00

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Mar.78-1y

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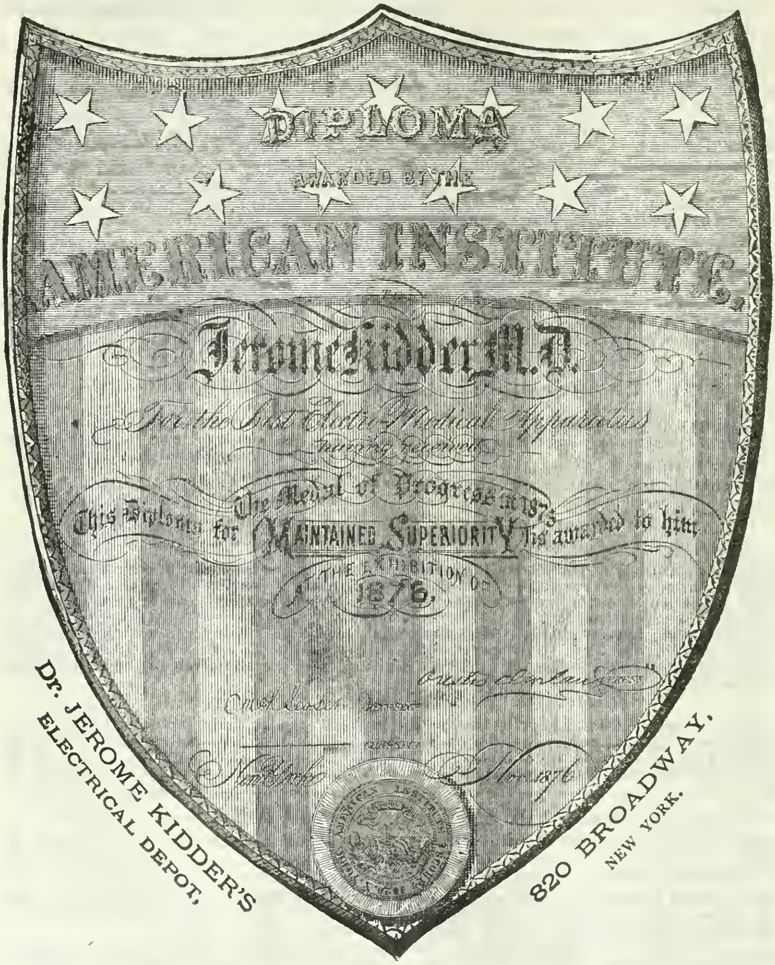

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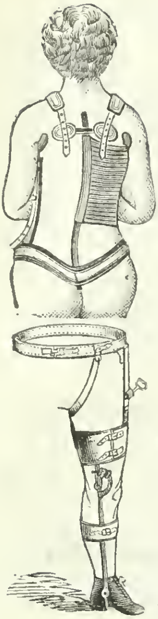

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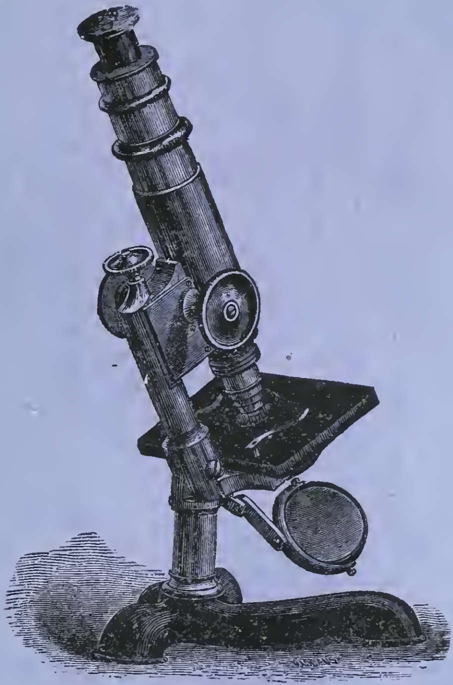

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